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CALIFORNIA *Desert*

M A G A Z I N E



APRIL, 1940

25 CENTS



Curiosity

By DICK FREEMAN
Los Angeles, California

First prize winning photograph in the February contest conducted by the Desert Magazine. Taken with a 3½x4½ Speed Graphic, 3.5 Zeiss Tessar lens, Super Double X film 1/195 second at f16, K 2 filter.

• • •

Special Merit

Following entries in the February amateur photograph contest of the Desert Magazine were rated by the judges as having more than ordinary merit:

"Pueblo" by Helen Young of Long Beach, California.

"Desert Spring" by Jim Leonard, Los Angeles, California.

"Peace" by Lester Selson, Los Angeles, California.

Fans of the Sands

(at Twentynine Palms)

By DUANE CLARK
Alhambra, California

Awarded second place in the February photographic contest. Picture was taken with a Contax 111 with 1/25 second exposure at f8. Eastman Plus X film with light red filter at 2:00 p. m. December 24, 1939.



DESERT Calendar

- MAR. 29 Art exhibit by John Hilton closes at Desert Inn Art gallery. Palm Springs. Opened March 15.
- APR. 3 Old Folks day at Mesa, Arizona.
- 3-5 Palm Springs festival. Fashion show, April 3, Desert Circus, Apr. 4, Big Top ball, Racquet club, April 5.
- 6 White Sands Play Day, Alamogordo, New Mexico. Athletic events, cowboy and Spanish songs, dances by Mescalero reservation Indians.
- 7 Traditional Swiss Swing, Holtville, California. Paul Egger, Swiss club president.
- 9-10 Arizona Pioneers Reunion, Phoenix.
- 10 Agnes Pelton Exhibit ends at Desert Inn Art gallery, Palm Springs. Opened March 20.
- 10 Papago Indians subject of Prof. J. W. Hoover, at Arizona Museum, Phoenix.
- 12-13 District Music Festival, Santa Fe, New Mexico.
- 12-13 Northern Arizona interscholastic music festival at Flagstaff, Arizona.
- 12-14 Nevada state junior chamber of commerce meet at Reno. W. H. Fieldcamp, chairman.
- 13 Folk Festival at Jemez Springs, 60 miles from Santa Fe.
- 13-14 Victorville, California, rodeo. Cal Godshall, chairman. Intercollegiate, April 13, cowboy contest, Apr. 14.
- 14 Arizona scorpions discussed by Dr. H. L. Stahnke at Phoenix, Arizona Museum.
- 14-16 Rotary California-Nevada district convention, Las Vegas, Nevada. A. C. Grant, president host club.
- 15-17 O'Donnell Invitational golf tournament for women, Palm Springs.
- 15-20 Maricopa county schools hobby show, state fairgrounds, Phoenix, Arizona.
- 17-20 Western State Highway officials convention at Santa Fe.
- 19 Folk Dance festival at Cuba, New Mexico. Participation by 13 schools.
- 20-21 17th annual Ramona Pageant, Hemet, California. Also Apr. 27, 28.
- 20-21 California federation of mineralogical societies holds 5th annual convention at Santa Barbara.
- 22-25 American Association for the advancement of Science, southwestern division, meets in Tucson, Arizona. Dr. Emil W. Hauray, secretary.
- 24-25 Rio Grande Kennel club holds sixth annual dog show, Albuquerque. George P. Greake, chairman.
- 24-26 Lea county, New Mexico, Folk Festival at Hobbs.
- 26 Arizona state bar association meets at Grand Canyon. C. B. Wilson, Flagstaff, president.
- 26 Festival at Artesia, New Mexico. Outdoor traditional drama, folk play tournament, Spanish and Indian tales, handicraft exhibits.
- 26-28 State convention Business and Professional Women's clubs, Santa Fe.
- 27-28 Wildflower show, Julian, California.



Volume 3

APRIL, 1940

Number 6

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RANDALL HENDERSON, Editor.

TAZEWELL H. LAMB and LUCILE HARRIS, Associate Editors.

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Los Angeles, California
 Note to the Editor:
 In the September issue of Author and Journalist 'twas said you were overstocked with poetry. Well, 'twould seem that most magazines are that way most all the time. If the world is so full of poets I wonder why there is so much of crudeness and materiality in our civilized land.

MAID L. STECKELMAN.

Dear MLS: *That's a good question. I, too, have wondered how Gold can be such a Despot in a land that produces so many poets. My own conclusion is that there are too many people writing poetry—and not enough of them living it.* —R. H.

Los Angeles, Calif.

Dear Mr. Henderson:

Got the manuscript okay, and want to thank you for what you said about it; and believe that you're correct, come to think about it, that DESERT MAGAZINE should be kept as is and not attempt fiction. Fiction in the U. S. is the cheapest thing on the market, even the so-called best of it.

But the desert is real, beautiful, no fiction about geology!

Best wishes and personal regards,

E. S. BARNEY.

Phoenix, Arizona

Desert Magazine:

Will you kindly draw a rough sketch showing how I may reach Yaquitepec where Marshal South lives. He has done something that many of us would like to do—if we had the courage. I would like to meet him personally.

VANCE O'HARA.

While I know the approximate location of Ghost mountain, I have never asked Mr. South the exact directions for reaching his mountaintop home. Living a very primitive life as he does, I know he is an extremely busy man, and I can readily understand his reluctance to publicise the location. I have never met him personally, but I know from the interesting letters I have received from him that he is not a recluse. Rather, he has undertaken an interesting adventure in the art of living according to a pattern that is very unconventional judged by "civilized" standards. It is needless to say his experiment would be impossible if Ghost mountain became a popular mecca for visitors.

—R. H.

Cronese, California
 Mojave Desert

Dear Randall:

I was glad to read in "Just Between You and Me," March issue of the Desert, that the mural on the walls of the new building is finished. I'm sure that it is beautiful, because everything that John Hilton paints is super.

But, I would like to know when Huckleberry Finn acquired an Aunt Mary, just between you and me, of course. I would also like to know where Huck got ambition to begin to paint a fence, even if the aunt he didn't have, had had one.

Was there an Aunt "Mary" at all? Wasn't it Tom Sawyer's Aunt Polly? Which of us is twisted? Now I'm so mixed up I've got to read "Tom Sawyer" and "Huckleberry Finn" over again.

MARY PROCTOR.

Something tells me you are right about that—it was Tom Sawyer. That's what happens when I go wandering away from the desert and try to write about something that happened in Missouri. After this I'll stick to my cactus and sand dunes.

—R. H.

LETTERS

Montezuma Castle
 Camp Verde, Arizona

Dear Sir:

Recent comers to the Southwest Mrs. Bowen and I have found your magazine "tops" in interest and educational value. Being a Park Ranger in a country to which I am not native leaves gaps in my information that tourists seem to ferret out with uncanny accuracy. *The Desert Magazine* goes far in giving me the information I want. Fact is Mrs. Bowen and I qualified as dyed-in-the-wool Desert Rats in the test in your February issue.

I am enclosing \$4.00 for 2-year subscription to begin with the March issue. Would like to have a copy of the December, 1939 issue if one is available.

WILLIAM L. BOWEN.

Ft. Defiance, Arizona

Dear Randall:

As a S. S. D. with an average of 18 since the Quiz started and Ruth with 14, we will have to take you to task on your Question 14 in the March issue.

St. Johns was not founded by the Mormons. In 1871 a few Spanish-Americans established there in the stock business. Solomon Barth and his brothers Nathan and Morris began farming activities in 1873. In 1879, Ammon M. Tenney, a Mormon bought out the Barth activities and in 1880 Wilford Woodruff located a site for a Mormon settlement about one mile north of St. Johns, but later moved to the high ground adjoining the old Spanish-American settlement. St. Johns was founded by Spanish-Americans.

RUTH & RICHARD VAN VALKENBURGH.

Van, you and Ruth are right as usual. Quiz editor's face is redder than usual. He promises to do better next time.

—R. H.

Lincoln, Nebraska

Dear Sir:

I really can't tell you how much I've enjoyed the two numbers of "The Desert Magazine" just received.

Was interested in O. S. Marshall's letter regarding "The Desert" by John C. Van Dyke. I've read it many times but still find it extremely interesting. Do you have Bolton's "Rim of Christendom" in your list of books on the desert? I think most everyone would like it. For so learned a volume it is quite 'chatty' and easy to read.

I'm very glad I had the privilege of being in your quite wonderful desert for a part of my life at least. You see my husband, the late J. T. Evans was interested in mining and operated for awhile the Babicanora mine in Sonora 'south of the border, down Mexico way'.

The days have been long since I first began hearing about the Imperial Valley and El Centro and I'm happy to be in touch with them and the whole desert country again through your very fine magazine.

ELEANOR EVANS.

Desert Magazine carried a review of Dr. Bolton's Rim of Christendom in February, 1938.

Rockville Centre, New York

Gentlemen:

Enclosed please find money order covering a year's subscription to Desert Magazine. I believe that my present subscription ends about June or July but want to renew while I think of it. Kindly credit me with another year's payment.

You certainly have a wonderful magazine and we people here in the east appreciate it very much. We can dream of the great open spaces, not being able to be there in the flesh. Many of us look forward to a time when we can visit some of the interesting places described in your interesting stories.

Wishing you all success, I remain,

H. W. H. STILLWELL.

Fullerton, California

Dear Sir:

In Randsburg a few years ago I heard a yarn that may interest you. A couple of fellows had started out across the desert, to be gone three days. When they had not returned on the fourth day a party was sent out to find them.

Their car had broken down, but the men had sense enough to stay with the machine, and while they were out of water and food, they had not suffered seriously.

A day or two later when the incident was being discussed at my brother's place in Randsburg, an old fellow who seldom had much to say, offered this suggestion: "No one should ever go out in the desert without a deck of cards."

When asked why they should take playing cards out on the desert, he replied: "When a person realizes he is completely lost, if he will sit down and start playing solitaire—it won't be five minutes before one of them blankety-blank kibitzers will show up to tell him where he has made a mistake."

CHAS. S. KNOWLTON.

Pasadena, California

Dear Editors:

I just finished a 20-year stretch at Trona, and had two years in Death Valley (1915 and 1916) before then. Now that I am transferred to "civilization" the old desert contacts as supplied by your magazine mean more than ever.

Incidentally, while at Trona I was paired off with Jim Boyles in a lot of work with the Indians, especially Indian George who was the subject of Jim's recent article in Desert Magazine. Over the 20 years I had bi-monthly business with Indian George, paying him certain moneys I collected regularly for him. Some time when I might feel a literary urge, I may send you a collection of miscellaneous incidents concerning Old George whom Shorty Harris called "the whitest man in the Panamints." A sample of both his intelligence and honesty: Once between his regular payments from us, he came around to borrow \$5 to get some cloth and sewing materials for Old Minnie. A month or so later, when he came for his due, the first thing he said was "I owe you \$5; take it out first." On another occasion, he came badly crippled with rheumatism in his hip. So we perched him on a piano stool and focused an infra red lamp on the sore spot, while I went to the office to get his money. Meanwhile my wife smelled something burning and found the seat of George's pants smoking, and he wasn't batting an eye. He even jollied me about trading pants with him. Then he had a real sense of humor. I am glad Boyles has put Old George's life in the records to the extent that he did. Also that Desert Magazine had the privilege of the recording.

HAROLD P. KNIGHT.

The DESERT MAGAZINE

He's been extinct many hundreds of years—but from bits of fur and bone it has been possible to draw a fairly accurate picture of the ancient ground sloth.



M. R. Harrington, archaeologist for Southwest Museum in Los Angeles, spent several weeks as the leader of a party exploring the hidden secrets of Gypsum cave in southern Nevada—and here is the story of some of the amazing relics found in the dust and dung of this prehistoric rendezvous.

Man and Beast in Gypsum Cave

By M. R. HARRINGTON

CURIOSLY enough, the thing that first aroused my interest in the exploration of Gypsum cave in southern Nevada was manure, very similar to the common barnyard variety.

I had been attracted to this cavern by vague rumors that it might hold something of archaeological interest. I found portions of the floor of the dark inner chamber covered with a thick layer of hard dried dung. The place reminded me of some neglected old corral. How in the name of common sense did the stuff get there?

One of the local old-timers tried to convince me that the fibrous stuff was seaweed left from a period when the cave had contained a subterranean lake. But I was not impressed. I had cleaned out too many horse-stables in my youth to believe that.

Another theorist insisted that a marauding band of Apaches from Arizona had stabled their mounts in the cave between raids. In fact he claimed to have heard a tradition to this effect, and insisted that he had the right answer—until I pointed out to him that the passage through solid rock that formed the entrance to the inner chamber was too low to admit a horse, or even a burro, unless it was dead and dragged in by the hind legs. Besides, many of the individual droppings seemed too large for horse dung.

Moreover the stuff was full of coarse plant fibers. The creatures must have been vegetarians living on pretty rough fare. Mentally I checked over the animals, wild and domestic, known to have lived in Nevada in historic times, but not one could have produced dung like that in such a place.

Then I considered the extinct beasts of the Ice Age or Pleistocene period which preceded our own. Was there a large herbivorous animal with legs short enough to negotiate that low entrance? Saber-tooth tigers, giant lions and dire wolves being meat-eaters were definitely out. So were the short-faced cave bears. Bears! That was a suggestion. How about the ground sloths? Although no relation, they must have looked like long-tailed, imbecile bears. I know they were strict vegetarians, and being low-hung squatty creatures they could squeeze their heavy bodies through the low entrance into the inner chamber!

To make sure, I sent a sample of the dung to my friend Dr. Barnum Brown, noted paleontologist of the American Museum of Natural History. He confirmed my guess. Gypsum cave had been a den of ground sloths!

But that was not all. My friend John Perkins had given me several pieces of wooden dartshafts he had picked up in the

cave and I had gathered others later, all from the surface of the dung deposit. These I recognized as belonging to the ancient Basketmaker period, around the beginning of the Christian era. If weapons 2,000 years old could be found on the surface in Gypsum cave, what traces of more ancient man



M. R. Harrington examines the first ground sloth claw found in Gypsum cave.



Camp of the archaeologists. The entrance to Gypsum cave is seen above and to the left of the camp.

might lie beneath, perhaps imbedded in the very dung of the ground sloth?

After studying the situation I guessed that past history well worth knowing might lie concealed in that dusty smelly hole in the ground, and I recommended to the Southwest Museum that we undertake its exploration.

Perhaps the unusual disclosures of the next few weeks were due in some measure to the rather unusual personnel of our expedition. Our original exploration crew was composed almost entirely of American Indians! Mrs. Harrington, who usually accompanies me on these trips, is part Seneca. Her niece, Bertha Parker Pallan (now Mrs. Oscar Cody) who served as expedition secretary, is the daughter of a distinguished Seneca. He is Arthur C. Parker, director of the Rochester (N. Y.) museum of arts and sciences.

Bertha, known to us as "Bertie," comes naturally by her archaeological interest, having been born in a tent on one of her father's expeditions. As secretary at Gypsum cave she took care of all dictation, typing, cleaning, repair and cataloging of specimens and often found time to work in the cave, worming her way into the most inaccessible crevices, and usually returning with some real relic of the past.

My chief assistant was Willis L. Evans, a Pit river Indian from northern California who had accompanied me on previous expeditions. He is the most resourceful man I ever knew. Willis, now with the national park service, has distinguished himself by discovering another ground sloth cave near the entrance of lower Grand Canyon.

His brother Oliver served as assistant and his wife Jessie, a Shoshone from northern Nevada, was expedition cook, and a good one she was. She never lost her temper when unexpected guests ar-

rived for dinner, and what a test that is! Unofficial members of the party were Oliver's wife Myrtle, who is a Washoe, and several of Willis' children. Our camp made quite an Indian village, with four tribes represented.

The only paleface besides myself in the original Southwest Museum party (and I'm not too pale) was Alva Morrison, a banker from Boston, who, recu-

perating in the west from an illness, had volunteered as assistant. Morrison was a good companion, and no job was too dirty or difficult for him to tackle. Picture a bank official in overalls and respirator mask delving in the dirtiest part of a dusty dry cave!

Our adventures began when we arrived at the cave in January, 1930. In the first place we were obliged to set up camp in a heavy snow, almost unprecedented in the vicinity of Las Vegas, Nevada.

Then, when we started serious work it was not the experienced field men, digging in their proper scientific trench, who found the first sloth bones, but other members of the party who were not even on the pay roll! Myrtle and her little nephew Lyman, Willis' son, paid a visit to the cave one afternoon, armed with carbide lights. Tired of watching the diggers in the trench they finally wandered down to the lower end of the chamber and casually poked around in the dust of the floor that covered the sloth dung at this point.

They uncovered something that looked like a large bone, then another and another, and when they came back to the trench they brought their finds along. They were delighted when I pronounced the bones "probably ground sloth!" Trench Number 1 was abandoned for



Bertha Pallan Cody, secretary for the expedition, at the spot where she found the sloth skull.

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the time being and a new one started at the scene of the discovery. We learned later that my identification had been correct.

The next find was most important, not only in itself, but because it brought us the support of other institutions. This was made, not by the toiling excavators, but by the expedition secretary!

This day Bertie, as was her custom, when the paper work was done, donned headlight and dust mask and proceeded to the cave to search the crevices. Finding a large flat slab in Room 3 she peered under it and discovered that by sticking her head all the way in and looking back she could see into a crevice. There she spied a curious object that looked like a bone. Extracting it with difficulty she found it to be the skull of a strange animal, unlike anything she had ever seen—long and rather slender with a comparatively tiny braincase.

When I saw it I was tempted to shout "Ground sloth!" but being a prudent man and merely an archaeologist I decided to have the skull identified by a paleontologist. A guess, after all, is only a guess. Morrison volunteered to take the skull to Cal-Tech.

My guess was correct. The skull was really that of a ground sloth, the species *Nothrotherium shastense* Sinclair.

What happened then has passed into history. The California Institute of Technology and later the Carnegie Institution of Washington joined forces with us on the strength of that skull. We were promised sufficient funds to make a good job of the work we had begun. We acquired a resident paleontologist, the late James E. Thurston, who made it unnecessary for me to guess at the bones we found. Our working force was augmented by additional Indians and whites.

More diggers made quicker work and added more specimens; sloth bones, some of them with sinews still attached, preserved by the dryness of the cave; the huge claws of the animal—one being nearly a foot long—even masses of its reddish hair, were common finds.

Refuting the argument that the ground sloth *Nothrotherium* may have survived until recent times, bones of other Ice-Age creatures appeared in the same deposits, often imbedded in the dung. Among them were a small slender species of camel, something like a South American llama, a larger camel and two kinds of native American horses.

Best of all, from the Southwest Museum's point of view, were the traces of prehistoric men, found in all sections of the cave. Some articles were comparatively recent. We found the work of ancient Basketmaker, early Pueblo and Pahute Indians, deposited in the cave within the



Oliver and Willis (right) Evans, Indians who assisted in the exploration of Gypsum cave.

last 2,000 years, while other things could not be classified as to age.

Our supreme reward was the discovery of certain weapons and other things that we knew were made by human beings away back in the days of the sloth, perhaps 10,000 years ago.

For instance, in Room 3, after we had cleared away the layer of loose rocks and slabs under which Bertie's sloth skull had lain, we found an old cave floor composed of particles of limestone, earth and bits of sloth dung. Trowelling through this we came upon a beautiful dartpoint, skillfully chipped from quartzite, of a shape I had never before seen in this part of Nevada.

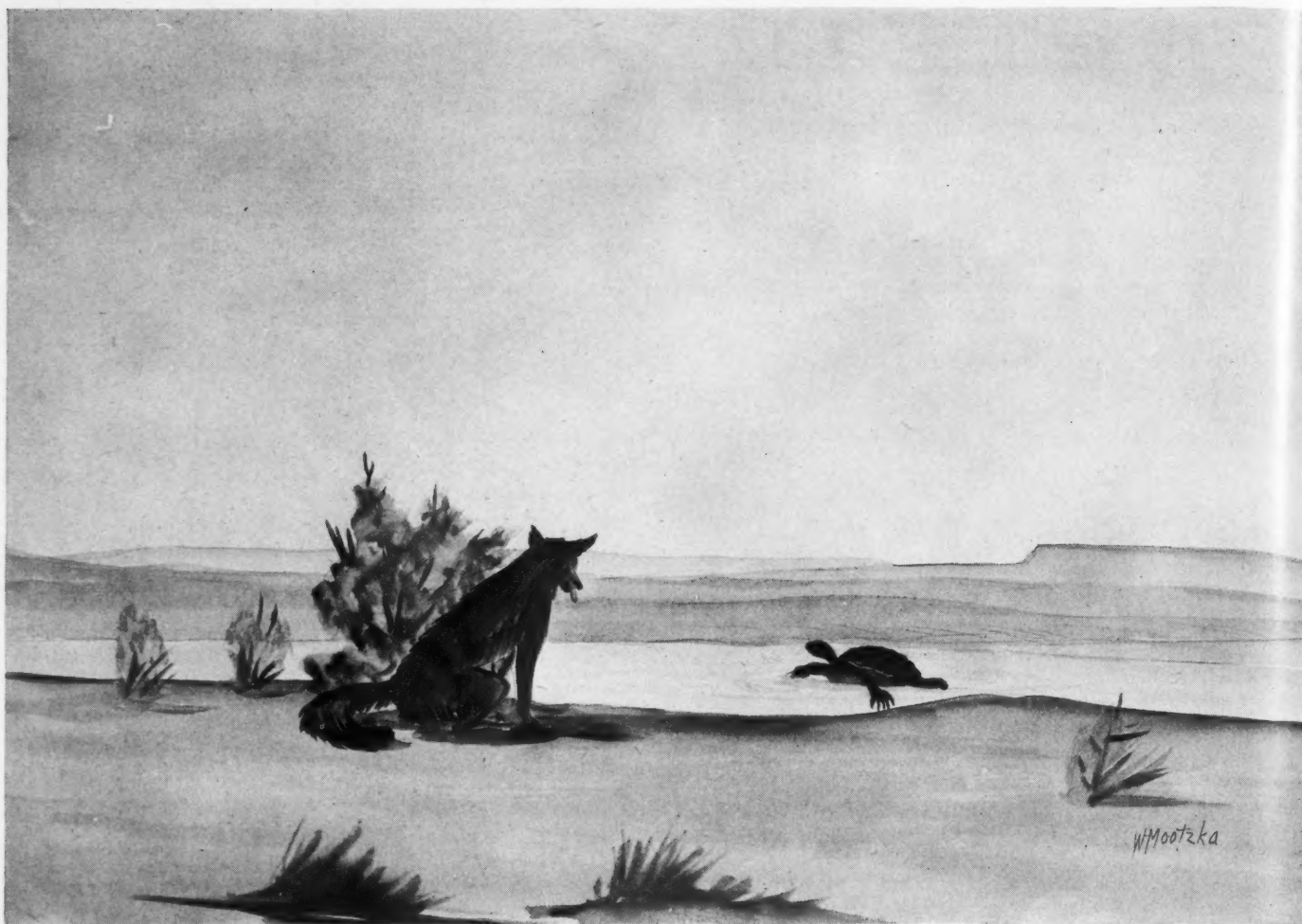
The point's probable history was plain

enough. Away back when the sloths were living in the cave some hunter had lost the dartpoint while making a torchlight exploration of the dark chambers and it had become covered with accumulating earth and debris. Later an earthquake had shaken down rocks and slabs from the roof, covering the old floor. Still later the sloth died, whose skull Bertie found.

When I returned to the museum I learned that points of similar shape, dating from the Solutrian period of Europe's Old Stone Age, have been found in Spain.

In the large inner chamber—Room 4

Continued on page 34



The Turtle and the Coyote

(A HOPI LEGEND)

As told to HARRY C. JAMES

Illustration by M. MOOTZKA, Hopi Artist

TWO days' journey on the trail to Zuni there is a small river in a shallow canyon where there lived in the olden days a great number of turtles. It was here that we Hopi secured many of our shells for dance rattles.

In those days turtles were very fond of eating cactus. One day a mother and a father turtle decided to leave their home in the water and go hunt for cactus. Their child, a very little turtle, was so sound asleep when they were ready to leave that the mother decided to leave him safe at home.

Shortly after they had left the water, the baby turtle awoke and was frightened to find himself all alone. He swam around the pool in which they lived and hunted everywhere for his parents. After he had searched all the deep places in the pool, he began swimming around the shores. Here he discovered their tracks leading up the bank. He knew at once that they had gone after cactus. He became hungry

as he thought of the fine meal they must be enjoying and decided that he would follow them. He climbed out and hurried along their tracks as fast as he could go.

He had gone only a short distance from the water, however, when he met a coyote. The coyote was very hungry, but he had never seen a turtle before and he was curious. The little turtle had heard many stories of the coyote and he was frightened. He began to sob and cry. "That is a lovely song!" the coyote said. "Sing some more for me."

"I am not singing! I am crying because I can't find my mother!" the turtle sobbed.

"Go ahead and sing, just as you were doing or I will eat you up!"

The little turtle was terribly afraid then, but he took courage and decided that he must outwit the coyote.

"Oh, that would be fine!" he exclaimed. "Then I would have a nice

warm place to live if you swallowed me. I would not be hurt and I could move around in your nice warm stomach."

The coyote thought that the turtle was telling the truth and he did not like the idea of carrying the turtle around in his stomach. He decided to threaten him another way.

"All right! You sing, or I'll throw you in the water."

"Oh, don't do that, Coyote! Please don't! I would drown," the turtle cried.

The coyote was angry now. He picked up the baby turtle and giving his head a hard shake, threw him far into the water.

The turtle was of course delighted. He dove way down deep, then swam up to the surface and laughed at the coyote.

After a little time the mother and father turtles returned, carrying some cactus in their mouths for the baby. As they ate together, they laughed as the turtle child told them how he had outwitted the coyote.

During the gold rush days, men perished within 50 feet of water at Tinajas Altas because they arrived there too exhausted to climb the precipitous rock wall where the natural tanks are located. This historic old watering place is in southern Arizona on Camino del Diablo, once a main artery of travel across the southwestern desert. Few travelers go there today—but it is a fascinating spot for those who like to explore the remote corners of the desert region.

Watering Place on the Devil's Highway

By RANDALL HENDERSON

"WE found 30 naked and poverty-stricken Indians who lived solely on roots, lizards and other wild foods," wrote Juan Matheo Manje, companion of Father Kino, at the time of his visit to Tinajas Altas.

The Indians were Papagos, and the time of Don Matheo's visit was nearly 250 years ago. The savages are gone from this place now—no one goes there today except an occasional camper or prospector.

But the nine natural tanks from which the Indians drew their water supply are still there—and the metates in which they ground their wild beans, and the crude symbols they sketched on the granite walls.

It was the mystery of these strange symbols that lured a party of six of us to Tinajas Altas in February this year.

Every student of Southwestern history knows about Tinajas Altas—that ancient watering place along the Camino del Diablo in southern Arizona. The name is Spanish for High Tanks—and it describes them well. They are carved by water erosion in a granite canyon so steep that more than one human being has died of thirst at their base because he lacked the skill or the strength to climb to water 50 feet above.

Our party assembled at Wellton, Arizona, for the trek down the east side of the Gila range to these historic tanks. Joe E. King came from Yuma, John Brownell from Brawley, California, Wilson McEuen, Charles Sones and the writer from El Centro. Rollie B. (Curly) Cornell, whose big-tired desert car was to provide transportation for sidetrips into the uncharted desert region along the Mexican border, was waiting for us at Wellton.

All of us except Brownell had visited Tinajas Altas previously—but we were eager to return. Such a place has an insatiable fascination for those who like to follow the rough trails into remote sections of the desert region.

Leaving Highway 80 at Wellton, we followed the sandy wash which leads off to the south. A mile beyond the town the road climbs out of the arroyo and the remainder of the 27-mile journey to the *tinajas* is along a hard trail—hard but slow. It is one of those washboard roads that is tedious only to those who find it difficult to readjust themselves to 10-mile-an-hour travel.

Such roads are good discipline for 20th century humans. When you can learn to bounce along at a snail's pace over innumerable cross-washes, and like it, you have overcome one

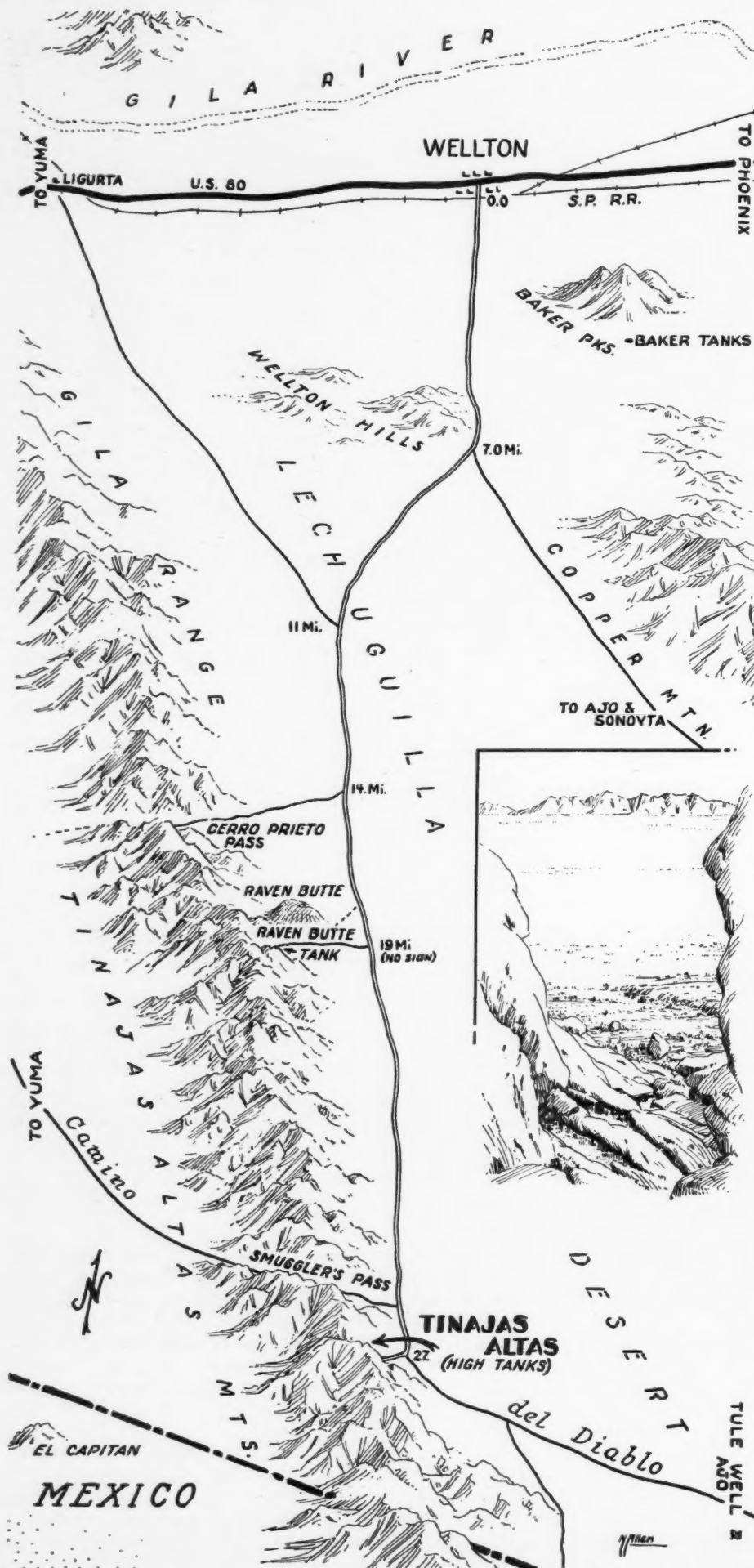


Two of the nine natural tanks at Tinajas Altas are shown in this picture.

of the biggest obstacles to the average person's enjoyment of the desert.

Old Mother Nature has provided many interesting things to observe along this High Tanks road. The jagged skyline of the Gila range parallels the route on the west and the Cabeza Prieta mountains are on the east. You are crossing the Lechugilla desert where giant saguaro cacti dominate a landscape of luxuriant Lower Sonoran plant life. Salmon mallow was in blossom as we made the trip south. Many of these "wild hollyhocks" of the desert were three feet in height with blossoms at every joint.

Our first night's camp was to be at Raven butte tanks. You'll recognize Raven butte as you travel south along this road. It is a pyramid of black basaltic rock, with the top of the pyramid sliced off. It stands out in bold relief against the cream-colored granite of the Gilas on the west side of the



highway. Raven butte guards the entrance to a peaceful little cove in the main range—and that cove is one of the most delightful camping spots I have found on the desert.

There are natural tanks back in the canyon, but it is a rocky climb to reach them. They are dry part of the year, so it is best to carry your own water supply if you are going to Raven butte. There is ample firewood in the arroyo, and the cove is well sheltered by flanking ridges, and Raven butte.

We took a shortcut into the cove—and got stuck in the sand. That is the penalty the desert imposes on those who try to hurry. But we had plenty of manpower for the two cars which needed help—and the exertion sharpened our appetites for the barbecued steaks which were to come later in the evening.

In justice to Curly Cornell and his ancient sand dune scooter I want to make clear that he took the wash in high gear—and then came back to help push our streamlined models out of trouble. The automotive engineers turn out beautiful cars these days—but they are about as useful on a desert trail as a pair of skis at a dinner dance.

There is no feast quite as delicious as a tender steak broiled over the coals of an ironwood fire and then sandwiched into a big bun. There are few dishes to wash after such a meal—and that is an added argument in favor of the steaks.

But it is not necessary to get stuck in the sand to reach Raven butte cove. If we had continued down the Wellton-Tinajas road another mile—to a point 19 miles from Wellton, where a faint trail leads off to the right we would have had no difficulty. This junction is marked only by a small ironwood peg in the ground.

As we lounged on our bedrolls that evening one of the campers suggested the Desert Quiz would make good entertainment. I brought out a copy of the March number of the Desert Magazine and soon the campers were scribbling answers in their notebooks by the flickering light of the campfire. We had three "Sand Dune Sages" in the party—with Wilson McEuen at the top with a score of 18.

Later, as we sat around the fire Joe King told us about a deep dark cave somewhere up on the side of the mountain. He had discovered the cave on a previous trip, but lacked a flashlight to explore it. He thought there might be Indian artifacts in the cavern.

Early next morning we took a faint trail that followed the gentle-sloping bajada toward the canyon entrance. A number of elephant trees grew on the side hills along the way. California's elephant trees have been widely publicised following their rediscovery three years ago

—but the species has been known over wide areas in Arizona for many years. They grow the entire length of the Gila range and may be seen from Highway 80 in Telegraph pass, between Yuma and Wellton.

We scrambled over a jumble of boulders as we reached the mouth of the canyon, and came suddenly to a cave whose walls were adorned with ancient pictographs. Among them is one that will give Southwestern historians something to puzzle over. In red pigment is the perfect outline of a cross, with a date that appears to be 1731 near it. The cross is unmistakable—the date not so clear. Apparently the same pigment was used for these inscriptions as for certain Indian pictographs which appear on the same rock.

The date 1731 falls between the period when Father Kino was exploring this area, and the time a century later when the intrepid padre Garces was following these desert trails. I do not question the authenticity of these markings — their weathered condition is proof of their age. Who put them there? And when? *Quien sabe!* Your guess is as good as mine.

Deeper in the rock cavern we found petroglyphs, evidently of a more ancient period, and pictographs in black pigment. The well known symbols of the desert Indians were there—the lizard, the sun, the scorpion—all well preserved.

While I was exploring among the rocks Joe King with a flashlight crawled back into the dark cave he had mentioned the previous evening. Then from back in the depths of the cavern I heard a snort of disgust. Joe had found a chewing gum wrapper in the place where he was sure an Indian olla would be concealed. Such are the disillusionments of exploring close to the beaten roads.

In boulders near the inscriptions we found evidence that this place had been a more or less permanent habitat of aborigines. Scores of metates, some of them ground deep in the granite slabs, were seen. Evidently the water supply at this place was more abundant in ancient times than today.

We wanted to remain at Raven butte cove for the entire weekend. But the goal of our trip was Tinajas Altas, and it was necessary to be on our way by mid-morning.

As a side excursion that day we planned a trip to the edge of the sand dunes which extend from the Arizona border far down into Sonora, around the head of the Gulf of California. We wanted to follow the route taken by Carl Lumholtz, author of *New Trails in Mexico*, through Smuggler's pass and thence across the Yuma desert as far as the sand dunes. It is an unmarked trail, but we had the Lumholtz map, and our compasses—and



Top—Grinding mill of the prehistoric Indians. More than 200 mortars of various depths are found at Tinajas Altas.

Center—This cross with the date 1731 is painted in red pigment near the tanks in Raven butte cove.

Bottom—Tinajas Altas cove. The tanks are in the precipitous ravine in the center of the picture.

we had Curly Cornell's car. Without those balloon tires such a journey would have been impossible.

We left the Tinajas Altas road a half mile north of the tanks, and followed a dim pair of ruts into the gap between the southern end of the Gila range, and the northern tip of the Tinajas Altas mountains. When the going became rough, we parked our two tenderfoot models, and the six of us piled into the desert car.

The trip that day was an adventure not to be forgotten. We plunged in and out of arroyos, we skimmed the tops of sand dunes. Twice during the day we came upon international boundary markers—which leads me to suspect we were over the Mexican border part of the time. But there were no customs officers to tell us where we should or should not go—and since we had nothing to smuggle either into or out of Mexico it made little difference.

The Lumholtz party crossed the dunes to a black butte which he called El Capitan. He and his party traveled on horses. I wouldn't believe that an automobile could follow such a route—until I rode with Curly. And now I wouldn't be afraid to tackle the Sahara desert—or Pike's peak—with Cornell and his ancient contraption. He took us 25 miles cross country and back to Tinajas Altas without a push. But I wouldn't recommend the trip for a civilized automobile.

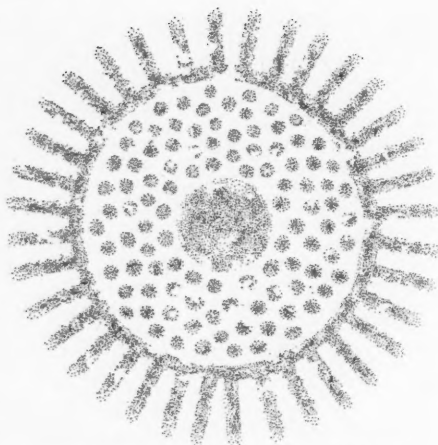
We returned to Tinajas Altas before dark. That night we cooked and ate our corned beef hash in a desert cove that has known more tragedy perhaps than any other watering place in the arid Southwest.

There are nine tanks, carved out of the granite at irregular intervals in a precipitous dike that rises 350 feet above the floor of the desert. They are so deep and so well sheltered from the sun that water is found in all or some of them throughout the year.

Eighty years ago when the Devil's Highway was the main route of travel for thousands of Mexican gold-seekers bound for California, these tanks supplied drinking water for large caravans of men and horses. The lower tank, which was the only one that could be reached by livestock, was nearly always empty. Then it was necessary for the prospectors and emigrants and adventurers who came this way to climb 50 feet up the steep face of granite and dip water from tanks 2 and 3 and run it down the natural granite trough to No. 1.

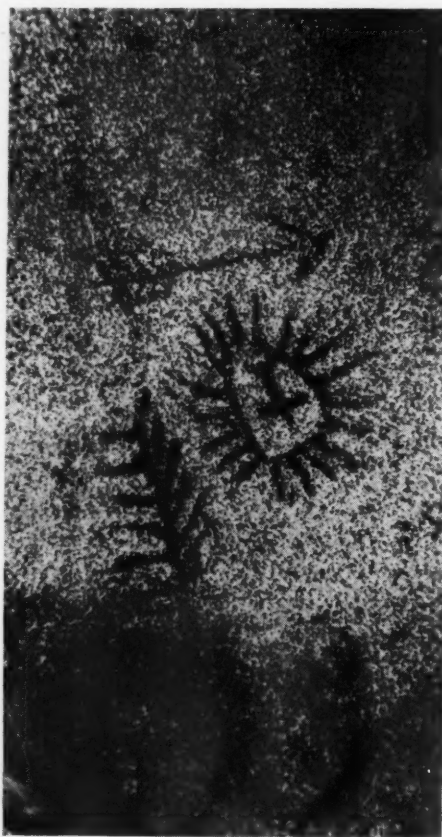
Today, so few travelers visit this place that there is nearly always water at the bottom, although it contains so much sand it often is necessary to dig a seepage pit to obtain a supply.

Capt. Gaillard of the U. S. boundary survey recorded the story of three ex-



Artist's sketch of the sun symbol pictograph found on the ceiling of a narrow horizontal cleft near tanks two and three at Tinajas Altas.

hausted prospectors who reached the tanks, found the lower one dry, and perished at the foot of the dike. Their bodies were found a few days later with fingers worn to the bone in their dying efforts to scale the rocks to the upper tanks. An ancient graveyard on the desert near the cove once contained 63 graves—mute evidence of the tragedies enacted here. Vandals have excavated most of



These pictographs at Tinajas Altas are difficult to identify as to time and significance. Evidently they were placed there in a comparatively recent period.

these burial places, and nothing remains to mark the old cemetery today except pits in the sand.

In more recent times a cable has been installed to help visitors climb to the second and third tanks. A signboard at the campground in the cove advises travelers that tanks 1, 2 and 3 may be reached from below, but that those desiring to reach the upper ones should detour up a talus slope on the north side and view them from above. An experienced rock climber may ascend the smooth rock face, but it is a hazardous undertaking for the unskilled.

These natural tanks first entered the pages of history when Father Kino recorded his visit here in 1699. Before his time countless generations of Indians lived here. More than 200 metates may be counted in the boulders around the cove today, some of them 12 or 15 inches in depth. It takes many years of grinding to create a 12-inch mortar in such granite as is found here.

Father Garces and other padres of the Jesuit and Franciscan periods probably came this way during their missionary treks among the Papago Indians. Capt. Juan Bautista de Anza followed the Devil's Highway on his first visit to California, but obtained water at Poso de en Medio seven miles northeast of Tinajas, and did not visit the High Tanks.

During the gold rush days the Camino del Diablo was a main artery of travel for Mexican fortune-hunters and it is estimated that at the peak of this period 5,000 travelers stopped at Tinajas Altas in one year.

As the Anglo-American gradually supplanted the Mexican in the settlement of the Southwest, travel over the Devil's Highway diminished, and when the southern transcontinental railroad was completed the Camino del Diablo became little more than a memory. There is still a passable trail along this route, but American motorists who visit Tinajas Altas seldom venture into the waterless region beyond.

In a wind-eroded cavity near our camping place I found an excellent pictograph of the shield and cross which was the emblem of the crusaders in the middle ages. There is no date but it quite evidently is the handiwork of a visitor in comparatively recent times.

Indian pictographs and petroglyphs may be seen on several rocks in the vicinity. Most interesting of all the glyphs found at Tinajas Altas is the sun symbol painted on the ceiling of a narrow horizontal cleft in the rock near the second and third tanks.

Joe King called my attention to it after we had climbed with the help of the

Continued on page 34

Monument peak, located on the California side of the Colorado river opposite Parker, Arizona, is a demon pinnacle that defied all climbers, until four members of the Sierra club devised a new technique for dealing with the treacherous rock encountered on the precipitous walls of the spire. They reached the summit on the last day of December, 1939, and thereby added a new conquest to the annals of southwestern mountaineering. Here is the story of their adventure as related by one of the members of the successful party.

First on Top of Monument Peak

By ARTHUR JOHNSON

Photographs by Maxine Holton

JOHN MENDENHALL had made two attempts to climb Monument peak. The first, in April, 1937, was little more than a reconnoitering trip. Climbing alone and without equipment he had gone 100 feet up the face of the pinnacle—and then turned back when it became apparent this was one of the most difficult climbing problems in the entire desert region.

His second attempt was a few days later when he and Lloyd D. Shaffer made the attack with a rope, hammer and a few bridge spikes borrowed from the construction camp at Parker dam. They reached a ledge 30 feet above Mendenhall's first mark—but found the rock too crumbly for safe climbing with equipment so crude.

Six months later two experienced Sierra club climbers, Glen Dawson and Robert Brinton, came to the peak with rope and pitons, and advanced another 30 feet above the Mendenhall and Shaffer mark. They turned back when it appeared foolhardy to attempt to climb higher. The story of their adventure appeared in the February, 1938, number of Desert Magazine.

If Glen Dawson and Bob Brinton could not scale this peak—then it must be a demon. Such was the conclusion of the climbing fraternity in Southern California. And so Monument peak remained on the records as one of the unconquered spires of the Southwest—possibly one that never would be conquered.

Then, in October, 1939, came the news that four Sierra club climbers from San Francisco had reached the summit of the hitherto impregnable Shiprock in New Mexico. And that was the spark which

kindled a new interest in Monument peak. If San Francisco climbers could scale Shiprock—then Southern Californians must uphold their prestige by going to the top of Monument peak. The latter is not as imposing a challenge as Shiprock, but it presented problems no less hazardous, due to the rotten condition of the rock to be traversed. Climbers must test the security of every handhold as they advanced—and broken fragments "gardened off" the face of the spire by the leader above are a constant threat to those who follow on the rope below.

John Mendenhall, twice defeated by Monument peak, was the one who sug-

gested another assault on the pinnacle.

I had just finished my Christmas dinner when the telephone rang, and John asked me if I would be a member of a party attempting the Monument peak climb during the New Year weekend. Arrangements were completed in 15 minutes. We were to make the attempt with a rope of four—John and his wife, Ruth, and Paul Estes and myself.

We had no misgivings over the fact that one of the quartet was to be a woman. Ruth Dyar Mendenhall has a long record of climbing achievements to her credit. She is one of the best.

Our party left Los Angeles in two cars



First picture ever taken of human beings on top of Monument peak. Dotted line shows route followed by Sierra club climbers in reaching the top.

on Saturday, December 30. We followed the Aqueduct road through Desert Center to Earp and thence along the California side of the Colorado river to Crossroads—the little settlement that grew up on the banks of the Colorado to serve the thousands of workers employed on the Metropolitan aqueduct and Parker dam.

At this point we left the river and followed a truck road up Bowman wash to its junction with Barometer wash and then over a divide and down into Copper basin where one of the aqueduct reservoirs is located.

Monument peak is a well known landmark in that area. Under executive orders of President Grant November 16, 1874, it was established as the northwestern boundary corner of the Colorado river Indian reservation. Boundary surveys in 1875 and 1912 reported the peak "inaccessible" and the iron boundary post which officially should be planted at the uppermost point on the pinnacle, is actually at the base.

Lieutenant Ives, exploring the Colorado river in 1857-58 was so impressed by the peak he made this entry in his official report to the war department: "Among the group of fantastic peaks that surmount this chain is a slender and perfectly symmetrical spire that furnishes a striking landmark as it can be seen from a great way down the river in beautiful relief against the sky."

We camped that Saturday night in an arroyo on the edge of Copper basin. In addition to the four climbers, Maxine Holton and Allan Estes, brother of Paul, accompanied us as "ground crew" to operate the cameras and help with camp chores.

Sunday morning we left camp at 8:00 o'clock, hiked a mile and a half over low bridges and arroyos and then up a steep rocky bajada to a saddle that connects the base of Monument peak with Copper mountain.

Monument peak evidently is the core of an ancient volcano, composed of basalt blocks and shattered material called volcanic breccia.

The material is soft, standing in sheer walls, overhung in many places. On the north and east the wall rises vertically from 800 to 1000 feet, but a knife-like ridge extending from Copper mountain connects with the southwest corner of the pinnacle about 250 feet below the summit. Since it is a comparatively easy climb to the top of this ridge our problem was to surmount that final 250 feet.

Once on the saddle, the game was on. We studied the ledges, cracks, overhangs—first from one angle and then another. We considered every highlight and shadow as a possible hand or foothold. Routes were suggested and discussed—and then approved or rejected.

A new technique which had been in



Climbers were about half way up when this photograph was taken. Picture has been retouched to show the rope and positions of the climbers—John Mendenhall at top, Arthur Johnson in second position, with rope attached to piton between them. Ruth Mendenhall and Paul Estes are at lower end of rope.



Picture of Arthur Johnson roping up Picacho peak where climbing conditions are similar to Monument peak.

my mind for some time was adopted as a possible solution for this peak. We were each to carry a hammer and tap every

hand and foothold to sound out the rock. Those experienced in driving pitons can tell instantly the soundness of the rock by its ring or thud. We went prepared to "garden off" loose material wherever necessary to improve our holds.

For equipment we had 80 and 120-foot climbing ropes (7/16-inch yacht rope), and 200 feet of reserve rope (5/16-manila) to be used in descending. We carried 30 pitons, 18 carabiners, 4 hammers, flashlights, first aid kit, lunches and 3 canteens of water. We wore tennis shoes or keds.

At 10 o'clock we "roped up." John and I tied to opposite ends of the 80 with bowline knots. Paul tied into the middle of the 120 with a butterfly and Ruth at one end with a bowline. Then we spliced the ropes with a figure-of-eight knot. Paul carried the rucksack with everything except the few pitons and carabiners carried by John and myself. Ruth carried the reserve rope.

We were going against generally accepted climbing practice in using a four-man rope. The usual rope is two persons, or three as a limit. Four-man ropes are slow and awkward to manipulate, and not considered stronger than a three-man rope. We knew this was to be a slow climb at best, however, and decided there would be greater strength in a four-man rope than in two twos.

John led off up the first pitch as I belayed. The first pitch was relatively easy. The second did not require the use of hammers for safety, but we used them anyway — to acquire an ear for the "sound" of the rock on which we were working. The tones ranged the entire scale from the metallic ring of solid rock to the dead thud of fractured and loose material.

Ruth and Paul arrived at the first piton as John and I reached the second one, placed by Dawson and Brinton two years ago. The "jack-hammer" brigade moved smoothly and without delay over the route previously climbed.

But now we had reached the point where others had turned back. John worked upward at a 45-degree angle toward a ledge 15 feet above. He obtained a precarious footing but had difficulty placing a piton. The cracks were either too narrow, too wide, too shallow, or of too loose material. This was a chronic condition on the entire climb. Often a perfect crack would play false when one side split away from the wedge action of the piton. The piton he finally drove was none too solid, but his next few feet being down the sloping ledge and the piton above him, he moved on hoping to place a better one around the corner at the end of the traverse.

Then he moved around the corner and out of sight. We could hear him tapping

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as he progressed. He drove another piton—in better rock this time.

Forty feet of rope was out when he finally called down, "Up! Belay off!" Paul came up from below and I followed along the route of the leader, unsnapping the carbiners in front and replacing them behind as I passed the pitons.

Rounding the corner I found John comfortably perched on a slightly out-sloping ledge 18 feet in length and a foot wide at the near end and four feet wide at the far end.

Before we started the climb it had been agreed that John and I should alternate in the lead position—and it was now my turn to tie into the advance end of the rope. I will confess that as I viewed the wall above the "honor" of leadership failed to bring any great thrill of satisfaction. But I knew, come what may, I had strong support behind me in John Mendenhall.

We decided on a straight frontal attack on the rock face above. There was a slight overhang the first three feet above the ledge and then the wall rose almost vertically a distance of 25 or 30 feet. The sparsely placed holds appeared to be solid.

John belayed Paul up to our ledge balcony while I retied at the end of the rope. Four feet above the ledge I found a piton crack. It was shallow and refused to take

They were first on top of Monument peak. Left to right, John and Ruth Mendenhall, Arthur Johnson, and Paul Estes. Copper mountain and the peak they climbed are in the background.

a regular piton, so I drove a special one with only a 3-inch shank. The musical ring of the metal in the rock told me it was a staunch support. Fine handholds made the progress easy at first—and then I ran into sloping nubbins. For 15 minutes I explored every possibility—and then with my fingers tiring under the strain of holding my body on a 90-degree face, I retreated to the ledge. And that was that!

This attempt had been made from the broad end of the ledge. I next tried a route up from the narrow end, where the footing was scarcely 12 inches wide. A route appeared feasible from this point if I could scale the first six feet of vertical wall that had no visible holds.

John solved this problem by wedging his body into a corner and giving me a shoulder stand from which to start. The rock was bad on this face and I hammered every inch of the way, breaking off numerous pieces of material. Once a block that must have weighed over a hundred pounds gave way and hurtled down past the climbers below. But the scare had its

compensation. The recess left by the missing rock provided a good elbow rest—just when I needed one.

I moved up the face at a snail's pace, sometimes making handholds by chipping away the soft rock. As I rested for a moment on a projecting nubbin I recalled Lieut. Ives' description of the great cap that covers some of this region. He called it "volcanic trap." He must have sensed the treachery of the rock on which we were working.

Finally I reached a tiny ledge from which the base of a chimney could be reached. I anchored to a piton which sounded secure. I was not sure we could go up the chimney, but a solid rock belay was available for roping down and so I signaled my companions to come on.

Ruth climbed to the ledge from which I had started—removing the pitons as she came. We were burning our bridges behind us, but we had the 200-foot rope for the descent.

Once as Ruth worked up from below two handholds gave way at once and her cry of "fall" gave me a chill that I hope I never experience again. I heard the "ground crew" call, "Are you hurt, Ruth?" She immediately reassured them. She had paid the penalty for failure to sound the rock with her hammer as she came. Fortunately, she was near a piton and had fallen only a few feet be-

fore the rope caught and held her dangling on the wall.

John soon joined me. "Wow, what a pitch!" he exclaimed. "I don't think I could have made it." I did not tell him then, but I'll say now that I would not have made it without the security of such a staunch climber as John Mendenhall on the belay below. The mental hazard is an all-important factor in climbing.

I worked up to the chimney—and what a boulevard it proved to be! It led 40 feet upward, with sidewalls three feet apart—a perfect spot for "foot and back" technique. At the top I found a lone crack that took a piton like Sierra granite.

A narrow foothold enabled me to move around a corner and wedge a knee into a steeply inclined triangular groove. Then a few feet of wiggling, jammed between the smooth faces of the groove, and my hands reached the top. I pulled up and came out upon the inclined cap of the peak only 50 feet below the summit. I walked 10 feet up the cap without use of hands—and then sat down and let out one of those Tarzan yells. We had conquered Monument peak.

Paul and Ruth changed places on the rope, and the ascent of the remaining members of the party was marred only by a minor incident when Paul's foot slipped as he surmounted one of the overhangs. John was belaying from above, and took the shock without difficulty.

At two o'clock in the afternoon of December 31, 1939, four supremely happy climbers shook hands on the tiny crest of a peak that had never before been climbed

by humans. We were four hours on the way, and two of those hours were spent on that 40-foot pitch below the chimney.

We built a cairn—the symbol of mountaineering conquest—and left a brief record of our experience. All but two of the pitons were removed as we made the ascent. That was partly due to Scotch thrift—and partly to the fact that this is no mountain for novices to be playing around on. The rock is too treacherous.

Our only remaining problem now was the descent. In some respects it was as hazardous as the ascent. In the absence of a natural rock belay at the top, we drove a piton through which our 200-foot down rope was doubled. The method of descent is simply to pass this rope between the legs, over one thigh, across the chest, over the opposite shoulder and across the back to the same thigh where one hand grasps the strands while the other hand holds to the rope in front and above. There is sufficient friction in this sling to enable the climber to lower himself at will. Leather patches on the trousers eliminate any

discomfort from this method of "slinging down" a long pitch.

Due to the condition of the rock, we gave added security on the down trip by belaying each climber from the top, with one of the climbing ropes. John came down last, and of course did not have the benefit of this extra protection.

The sun had dropped behind Copper mountain before we reached the base—and we trekked back to our camp by the light of our flashes.

Some peaks, having been conquered, attract the same climbers time and again. It is fun to explore new routes. But I am sure that Monument peak will never be such a lure. It is one thing to work on bad rock for the thrill of a first ascent—but no sane climber will do it again for the mere fun of the experience. I wouldn't recommend this peak for those who are not thoroughly experienced in the science of modern high-angle climbing. There are too many other difficult hardrock walls to be scaled, without taking the added hazards involved on this "volcanic trap."

DESERT TRAGEDIES

By M. E. Brady

Weather

FROM PHOENIX BUREAU

Temperatures—	Degrees
Mean for month	56.8
Normal for February	55.1
High on February 28	83.
Low on February 13	35.

Rain—	Inches
Total for month	0.61
Normal for February	0.79

Weather—	
Days clear	11
Days partly cloudy	11
Days cloudy	7

G. K. GREENING, Meteorologist.

FROM YUMA BUREAU

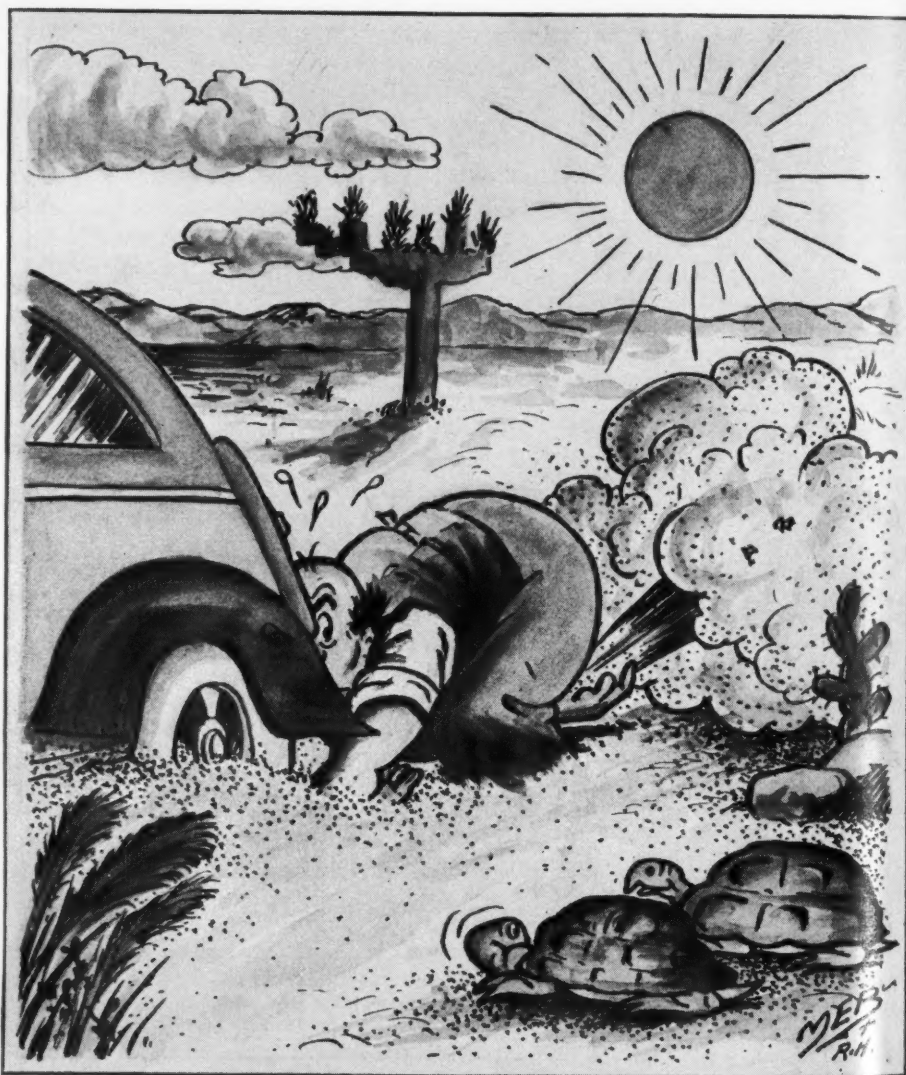
Temperatures—	Degrees
Mean for month	59.6
Normal for February	58.6
High on February 28	84.
Low on February 16	38.

Rain—	Inches
Total for month	0.25
70-year average for February	0.42

Weather—	
Days clear	20
Days partly cloudy	5
Days cloudy	4
Sunshine 83 percent (267 hours of sunshine out of possible 320 hours).	

Colorado river—February discharge at Grand Canyon 327,000 acre feet. Release from Boulder dam 444,000 acre feet. Estimated storage February 29 behind Boulder dam 22,240,000 acre feet.

JAMES H. GORDON, Meteorologist.



"Ol' Jumbo's holin' in early this season!"

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John Hilton and Harlow Jones on the road near the mineral field described in the accompanying text.

Hilltops Paved With Gem Stones

By JOHN W. HILTON

Photographs by Harlow Jones

"IT is easy to guess wrong about rocks," a professor of mineralogy once told me. "That is why we have tests for determining what a mineral is—rather than what it might be."

Every one who has gathered mineral specimens for any length of time knows how true this is. Most of us have guessed wrong at one time or another.

I am one of the guilty ones. It happened not long ago when Verne O. Kane, Desert Magazine reader and rockhound of Burbank, California came to my place with some handsome specimens of material which he thought might be petrified wood.

I examined them casually, and assured him they were very fine samples of weather-worn wood that evidently had been washed down an ancient streambed, or drifted to a beach, before they petrified to lovely semi-opal and agate.

Verne has followed many of the Desert Magazine field trips, and suggested that if I felt the field was worthy he would be glad to supply detailed information regarding his find so I could pass it along to other readers of the magazine. He made an extra trip to the place to obtain detailed mileages for this purpose.

In his letter he stated that since his first visit to the field, many others had been

there, but an abundance of material still is available for collectors.

Some time later Harlow Jones and I were planning a trip to Death Valley, and found it would be possible to go in by way of Cave springs and the field Kane had described. It appeared to be an easy day's drive from Barstow to the Death Valley mining property I wanted to visit, so we mapped our trip accordingly. I overlooked the fact that it is just as easy to guess wrong regarding desert roads as it is to misjudge minerals—but more about that later.

We left Barstow at noon and soon were climbing the colorful grade on the

Following the isolated desert trails in search of semi-precious gems and minerals is lots of fun — when all goes well. But sooner or later there comes one of those emergencies when even the seasoned desert traveler is in trouble. John Hilton and Harlow Jones ran into one of those emergencies when they took the old Death Valley road out of Barstow to map a new gem area for Desert Magazine readers. But they found the gem rocks—and a good Samaritan came along just when they were badly in need of help. You'll learn something about traveling on the desert from Hilton's story this month.



Eighty percent of the "desert mosaic" shown in this picture is agate, jasper or opalite

road that leads toward the north. Just beyond the first summit we came to a sign marked "Fossil Beds." A road to the left leads to a field where a great deal of prehistoric material has been uncovered for the American Museum of Natural History.

Further along our own road turned to the right at the sign marked "Goldstone and Cave springs."

As we rode along I told Harlow about Adrian O. Egbert and the fine work he had done in establishing water stations along this route for emergency use by travelers following the desolate route from Barstow to Cave springs. I also recalled the time many years ago when Egbert had given shelter to myself and a friend when we were just a couple of tired and rather bewildered high school boys on our first trip into Death Valley.

At the summit of the rise beyond Paradise springs we came upon the first of the water stations placed by this "good Samaritan of Cave springs" as Walter Ford described him in the Desert Magazine several months ago. Here, tacked to a Joshua tree is a sign with the single word "Water." Only those who have traversed the remote desert trails during the summer months when water is the one most important thing on earth, can fully appreciate the magic of that word.

Egbert is in the hospital at Barstow now, and if illness keeps him confined during the next summer I wonder who will have the kindness and courage to carry on the thankless job of keeping these water jugs along the Cave springs road filled.

The road this far had been fairly good, and it was not long before our speedometer registered the mileage where we were to turn off to the left. We found a

faint trail leading in that direction. Within a short distance small pieces of agate strewn over the desert were visible from the car, and then another left turn brought into full view the two low black hills Verne Kane had told me were the landmarks for the gem field.

The road ended in a parking spot between the hills—and we had reached our destination.

Walking a few hundred yards to the top of the low hill on our right, we soon were convinced that Verne had underestimated the amount of material available in this field.

Most desert travelers are familiar with the type of surface known as "desert mosaic." The action of wind and water has so arranged small rocks on the floor of the desert they appear to have been carefully spread out and rolled down with a steam roller. This type of surface we found covering the tops of the low hills. But instead of the usual black lava, we found this "pavement" consisted of nearly 80 percent agate, jasper and opalite.

Scattered here and there we found samples that did look somewhat like petrified wood, but on examining the larger pieces it was apparent they were not wood. They had a lengthwise grain resembling wood, but the cross section failed to show the curvature to conform with the shape of the tree.

A little prospecting disclosed that this material is weathering out of a sedimentary deposit of silica jell. These layers were laid down and solidified on a perfect level, much in the same manner as the old-fashioned system of making ice—by turning a new sheet of water in every night and freezing it in layers until the ice is thick enough to cut.

Agatized and opalized nodules appear

to have been formed by the slowly receding moisture in the silica jells. In much of the area the jells lost nearly all of their water and became a white powder tripolite from which these knot-like masses, with their deeply lined weathering, have been exposed to fool the rock-hounds.

This is by no means the only interesting type of gem material found on the surface in this field. Almost every grade of agate through jasper to opalite is present in profusion. Some of the most interesting colors of agate are the yellow, rose red and rare black shades. The latter are not commonly found with even color and texture, but they are worth the search because they excel in quality the so-called black onyx, which is artificially dyed.

Harlow and I were reluctant to leave this interesting field—but we had a long trip ahead and we preferred to cover as much of it as possible by daylight.

As we followed the road toward Cave springs we passed more of Egbert's water stations. We looked upon them as first aid for the tenderfoot drivers. Of course we were veterans who always carried ample water for every emergency. At least that was how we felt about it then. We even made some rather disparaging remarks about those thoughtless travelers who come into the desert without sufficient water.

Just as the sun was sinking we saw a trail to the left which appeared to be a shortcut to the mines where we planned to spend the night. It was not a graded road—just two wheel tracks, but we were sure it would save many miles of travel and insure an earlier supper.

The going was very good at first, then the road became rougher. Finally we reached a section where cloudbursts had played havoc with the trail and it was only with difficulty we could see the tracks ahead.

Finally we were traveling entirely in second gear—and then we became aware of the fact that our lights were growing dimmer. We stopped, and discovered that the generator had quit working.

Turning the lights out, but keeping the motor running in order to conserve what energy remained in the battery for emergency starting, we tackled the repair job which evidently had to be done if we were to reach camp that night.

We pooled our mechanical knowledge—but it wasn't enough to solve the problem. So Harlow held his flashlight on the dim trail ahead while I undertook to steer the car over the boulders by the dim light. We lost the road many times, and had to get out and circle in the darkness to get our bearings again. The temperature had dropped to a freezing point, and Harlow would hold his flashlight

until his hand was blue with the cold, then change to the other hand.

But we were making headway slowly—until during one of the stops we heard running water, and discovered the hose had been wrenched loose from the bottom of the radiator.

Now a radiator hose is not an easy thing to repair in daylight when the engine is cool—but at night with the hot water spurting from the leak and a frantic need for haste in order to conserve the limited supply—well, it is a tough spot for a rockhound to be in. But finally the repair job was made, and we filled the radiator from our five-gallon reserve supply and were on our way.

I do not know how many miles we traveled that way—bumping over cross washes with a dim beam of light swaying ahead—but we had not gone a great distance until we discovered the radiator was boiling. We had lost our water again—and the road as well. Evidently there was a flaw in my repair job.

While Harlow searched for the road, I worked again on the pesky hose. Finally we were ready to go, but in backing the car to return to the road which Harlow had located far off to one side, I failed to see a rocky embankment in the rear, and the next moment we had the rear bumper hung over a big boulder while the rear wheels spun merrily several inches from the ground. So we turned miners, and since that was more in my line, we were making fair progress when over a rise just behind us two headlights suddenly appeared.

"In trouble?" asked a friendly voice.

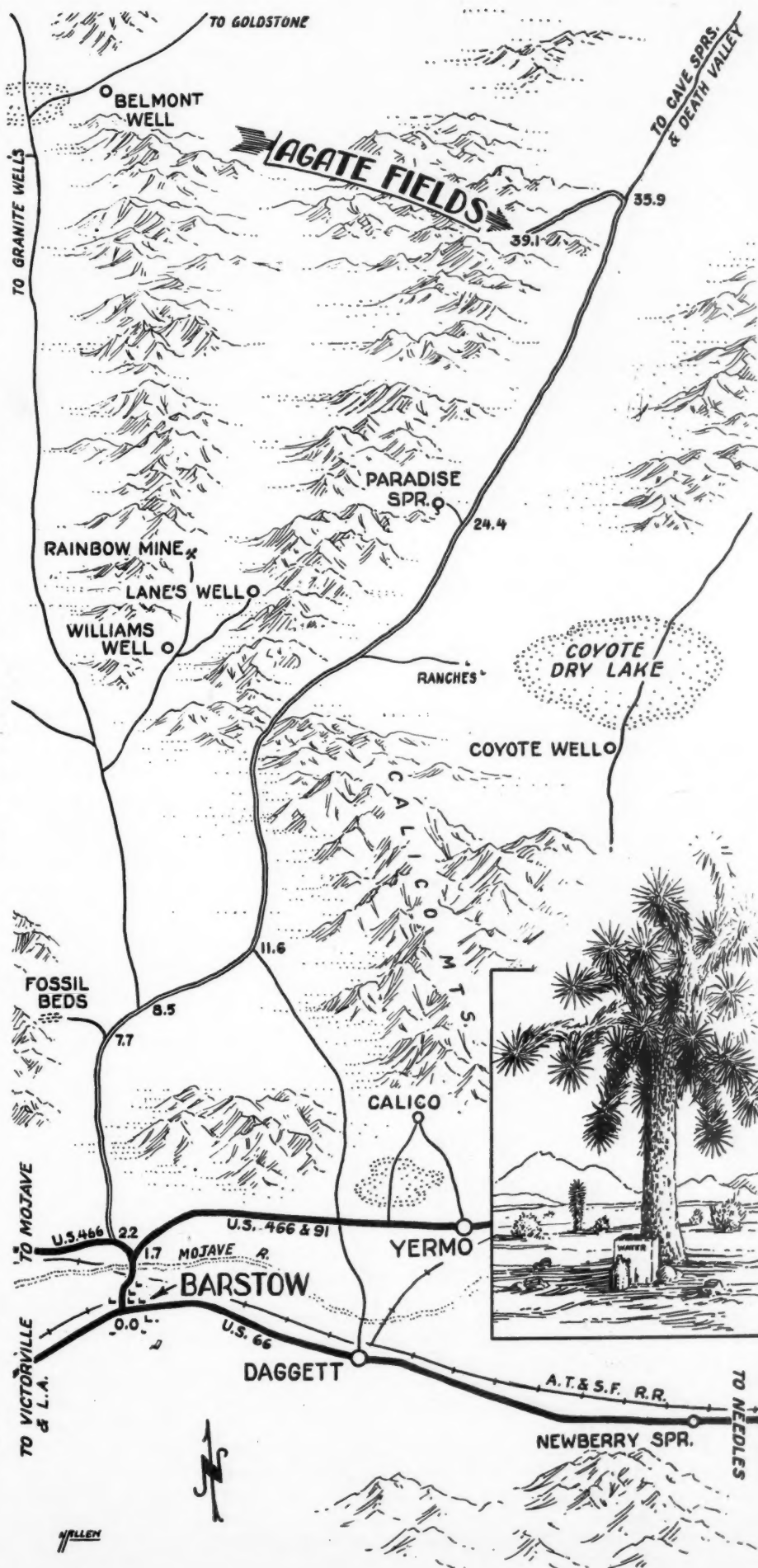
"Plenty!" was the answer.

And then, I learned that the driver of the car was T. C. Niceley of Trona whom I had met seven years before—and had not seen since. It was a rare coincidence to meet any car on such a road at that time of night—and doubly so to find an old acquaintance at the wheel.

That simplified our problem. I followed Niceley, and steered by the bright beam of his lamps ahead. But the water hose was leaking, and soon the radiator began to boil again.

There wasn't enough water left to fill the radiator even if we repaired the leak successfully. So we went into conference, and the result of it was the Niceleys went 10 miles out of their way to take me to the mining camp which was my destination. All of which proves that Adrian Egbert is not the only good Samaritan who resides in this Mojave desert region.

That night we sat around a warm campfire and discussed the tribulations of desert travel—but there was a little more tolerance in our remarks about those motorists who come into the desert without water enough for every emergency.





The Apaches harassed the Spanish by rolling boulders down on them from the top of the cliff.

WHEN the notorious Apache outlaw Geronimo died in 1909 he carried with him to the happy hunting ground the secret of a rich gold mine that many white men would be glad to possess.

It is believed that certain Apaches still living know the approximate location of the mine, but since it is not on their reservation and it is unlikely they would profit from the disclosure, they prefer to remain silent.

After being captured in 1886, Geronimo used his knowledge of the gold mine in an effort to secure his release from Fort Sill, Oklahoma, where he was virtually a prisoner of the United States government. However, the plot was discovered before the wily old Indian with the aid of his conspirators could make his escape.

While Geronimo steadfastly refused to reveal the exact location of the vein, he told a friend at the Fort it was located somewhere in the wild and picturesque Verde river country, not far from Jerome.

According to rumor, the rich vein first was discovered by

Up in the Verde river country in Arizona you can find a canyon that fits the description given in this "lost treasure" story in all except two important details. You'll find no wild Apache Indians there—nor will you find the buried bars of gold, unless you are a better gold hunter than any of the others who have sought this treasure. Few people believe this gold mine actually existed—and yet, like the other "treasure" legends of the Southwest, it is an interesting tale.

Lost Apache Gold Mine

By JOHN D. MITCHELL

Apaches, but was later taken from them by Spanish soldiers who were on their way from Sonora to the Zuni villages in New Mexico. This was in the latter part of the 18th century.

Attracted by the amazing richness of the quartz vein, six of the Spaniards remained behind to work the mine. An arrastre was built near the outcrop where a spring of water broke from under a large boulder at the foot of a high cliff. The ore body was so close to an arroyo it was found necessary to construct a rock wall to protect the workings from the flood waters that rushed down the narrow canyon during the rainy season.

After a rock house had been constructed and the mining operations were well under way, a small adobe furnace was built and used to smelt the gold into heavy bars suitable to be transported on muleback.

The Apaches resented the intrusion of the Spaniards and lost no opportunity to harass them either by direct attack or by rolling large stones down on the workings from the high canyon walls.

The adventurers were heavily armed and were forced to fight as well as mine, but the ore was so rich they were reluctant to leave it. As the tunnel penetrated farther into the mountain the ore increased in richness until it was almost half gold and was taken directly to the smelter instead of the arrastre.

When operations had been carried on for a year or more and a large number of gold bars had been run and stored away in the tunnel it was decided to load the gold on the backs of the packmules and return to Mexico for reinforcements in order to work the mine with more safety.

In their hurry to get away the Spaniards neglected to guard the narrow entrance to the canyon in which the mine was located and as a result of this neglect they were attacked by a party of Apache warriors. In the fight that ensued many Apaches were either killed or wounded by the Spaniards who retreated to the rock wall and nearby house. However, four out of the six Spaniards were so badly wounded they died shortly after the Indians withdrew to the surrounding hills.

The two surviving Spaniards decided to hide the gold in the tunnel and make their escape as best they could. After burying their dead they mounted two saddle mules that had not been stolen by the Indians and under cover of darkness headed south. Ten days later the two Spaniards arrived at Tubac on the Santa Cruz river.

It was then 1767 and King Charles the third had just is-

Continued on page 20



Curing jerky at Yaquitepec on Ghost mountain.

DESERT DIARY

By MARSHAL SOUTH

March at Yaquitepec

OUR personal Herald of spring has already made his call at Yaquitepec. No, not the traditional lion who is supposed to usher in the month of gales. Our March announcer is a Western Robin. He comes every year. We like to think that it is the same bird—and probably it is, for we have never seen more than the one each year. Oddly he seems out of place here in the desert among the frowning rocks and the cholla. But he has all the friendliness of the robin family.

Annually he gives our domain a thorough inspection, hopping about our tiny garden patches and peering, with knowingly cocked head, at everything through amiable yellow-rimmed eyes. He usually stays around for two or three days and then vanishes. But he leaves our Desert Spring firmly under-way behind him.

There will still be roaring gales, yes, and the surfy churning of the yelling wind through the junipers upon the summit of the cliff. Even we may have flurries of snow.

March is the month when Tanya and Marshal South make jerky on Ghost mountain, and many readers of the Desert Magazine who reside in remote corners of the Southwest where the preserving of meat without refrigeration is a problem, will be interested in the method Marshal has described for curing meat at Yaquitepec.

But the iron grip of Winter is over. The earliest of the Spring flowers are out. And away below us in the green carpet of grass that tints the dry lakes and desert hollows there are already broad brush strokes of delicate yellow gold.

The roadrunner, who is one of the cheery company of feathered and furred friends who share Ghost mountain with us, sat out on a big boulder the other day and for a long time voiced his opinions of things in general. A cheerful rascal, for whom I hold sensitive memories. The first time—now a long while ago—that I heard his weird, querulous call-note, startlingly like the whining complaint of a sleepy puppy, I set out to trace it to its source. The thing was a mystery. It did not sound like a bird. And the whining complaint "Uuuuummm . . . uuum . . . uuummm!" seemed to flit ghostlike amid the junipers and rocks. It defied location. And in the exasperated pursuit of it, I forgot caution—and trod squarely upon a mescal spine. That ended the search. For six months afterward the ache of the point, deep-driven into

my heel, served to keep fresh in my mind the mysterious cry. We know now that it was a roadrunner. But I still have a remarkably tender feeling for the sardonic rogue.

Yes, Winter is moving out. But we bear him no ill will. Rather his going is tempered with a little regret. For Desert Winter, on Ghost mountain, has a charm all its own. A fierce charm perhaps. But there is fascination in it—fascination in the abrupt and roaring changes that come charging over the wastelands. The days—the very hours—are unpredictable. To a sunny, summerlike warmth, when clothes are superfluous, a short half hour may bring the shivering chill of the arctic and a hasty snatching for blankets and a kindling of fires. It is then, when the wind yells savagely above the roof and grey, rolling mountains of cloud close in upon the sun, that we are grateful to the spiny myriads of mesquites which crowd our jagged wilderness. For our chief fuel is the dry butts of the dead plants. Savage, spiny fuel. It must be handled with respectful caution. But in the maw of our great adobe stove its roaring flames and fiercely intense heat more than atone for the painful wounds that it sometimes inflicts on uncautious hands.

There are classes and degrees to this swift burning fire-wood. The butts of last season smoke and roar fiercely with a gassy fury that glows our iron stove-top to a cherry red. The older butts, those that have weathered down to grey, solid-cored, bundles of fibres, burn more slowly and must be stirred with the fire-irons and pounded occasionally lest they smother themselves in their own ash. The ancient, venerable remnants—relics of who knows how many score forgotten years—take long in lighting, but when once alight glow with the bright, even heat of coal. They are hard, these blackened, weathered cores of long-perished agaves. Utterly denuded of leaves and fibres they are more like oddly shaped pieces of hardwood than anything else. And when once lighted they burn like mesquite and provide almost as satisfactory a bed of coals.

In the dark winter evenings when the gales, yelling along on the 3,500 foot level—often from a lowland desert that is utterly calm—slam and shoulder from the summit of Ghost mountain and thunder over our low roof we have a lot of warm feeling in our hearts for the mesquite. In the dancing glow of the flames the youngsters sit before the great open fire-door and draw patterns on the gravel floor and discover fairy castles and palaces amidst the glowing embers. Yes, Winter is going. But it leaves regrets.

We have been making *Carne seca*—jerky, if you prefer, though to us the Spanish name always seems more appropriate. Like most everything else there are ways and ways to the process. We have tried two methods—and each has its advantages. One way is to dip the long, thinly cut strips of meat into a deep kettle of boiling, well peppered strong brine. We lower them in slowly and extract them in the same measured fashion—a slow dip that leaves the meat white from the boiling liquid. Then it is hung out on the line to dry. The advantage of this method seems to be that it sears the juice in the meat and at the same time gives a uniform coating of salt and pepper that discourages the flies. The disadvantage is that it tends to make a rather tougher finished product.

The other method is to cut up our meat in as thin sheets or strips as possible and, salting and peppering it lightly, set it away on a platter for a few hours. The salt will draw the blood out, and the drained meat is then hung out on the lines in the evening. By morning, in the average desert weather, it is dry enough to discourage, to a great extent, the attention of flies. A little less tough product is the result of this plan. But we have used both systems with very satisfactory results.

For those who crave the genuine Mexican method I append the recipe of my old friend Don Juan Fulano de Tal: "Señor, you jus' cutting up thee carne en thee beeg, then sheet an'

rubbing heem weeth some *sal* an' a leetle chili an' one pint of *vinagre* to every *viente kilos*. Then you hanging heem out on corral fence to dry." There are advantages to this method too. But no matter how you do it there are few things more tasty than desert dried meat.

The hummingbirds are moving in. This morning one raced into the porch, through the big, open window, and hung like a vibrant, suspended jewel, above our heads. He was utterly fearless and in the level rays of the morning sun, striking in across the mountaintop, he switched here and there, a flashing, buzzing ball of iridescent flame. A brightly flowered scarf of Tanya's lay across the foot of the bed and he sampled it curiously—thrusting at the painted flowers with slender investigative beak. Then, with a whirl, he was gone—a flash of fire away over the cliff edge.

The morning sun was a glint of gold over our hilltop. In the cleft of the great boulder near the house the hardy little creosote bush gleamed cheerfully in its new dress of shiny green leaves. There was the faint but unmistakable hum of bees among the junipers.

Somewhere, away off in a world that calls itself "civilized" cannon foundries are roaring and men who preach "brotherhood" are dropping bombs upon the homes of little children.

Here, in the "savage wilderness" of the "merciless desert" there is peace.

Lost Apache Gold Mine . . .

Continued from page 18

sued his edict that all Jesuits should be expelled from Spain and all its possessions. As a result the mines were closed and the missions were abandoned and either destroyed by the Indians or fell into ruins from neglect.

The two old miners eventually made their way back to Mexico, but were never able to return to work the mine or recover the buried gold. They did however, leave a map of the country in which the mine was located and a record of their operations.

Legendary lost mines are invariably richest where the Indians are wildest—and this one is no exception. Like most lost mine stories there are several versions and many "true" maps. In this case the most likely story is the one coming from the city of Mexico, which places the mine in the Sycamore canyon country between Jerome and Perkinsville, Yavapai county, Arizona. There are numerous small side canyons that empty their flood waters into the Sycamore and at least one of them answers the description set forth in the old document.

The old map shows the profile of an Indian's head sculptured by nature on a high cliff just above the mine opening. The nose of this rock Indian is very large and as the story goes the mine is located directly under the Indian's nose.

It is said there is such a cliff overlooking a narrow box canyon up in that part of the country and the foundations of an old adobe or rock house are still visible. The rock fence or wall at the foot of the high cliff which was known to many old time cowmen who ranged their cattle in that part of the country, is now almost completely covered by a slide of rock broken from the canyon wall above.

A stream of water breaks under a large boulder near the canyon wall and the ruins of an old *vaso* (adobe smelter) and the grinding stones of an *arrastre* may still be seen there. Not far away under the trees are several old graves all marked by piles of stone.

The deer and the bear, the wild picturesque canyon and the small stream of water are there. Also a deposit of rose quartz. But the blood-thirsty Apaches are now missing from the scene. Nor has the golden treasure ever been rediscovered, if in fact it ever existed.



Photograph by A. Wiederseder

MY GOAL

BY VERNE MARSHALL
Santa Ana, California

Sometimes I think I'd like to live,
"In the house by the side of the road,"
Just to watch the cars and the people,
As the traffic onward flowed.

And then I think I'd like to live,
Where the blustering breezes blow,
Where the rain comes dashing through the
trees
And then turns into snow.

And again I think I'd like to live
Where I can hear the ocean's roar,
Where the wild waves surge and dash and
roll,
And the sea gulls gaily soar.

And then I dream I'd like to live
Up in a canyon high
Where the stream runs madly o'er the rocks
And the trout rise to the fly.

And then I awake to the joyous fact
That I love the Desert grand
That the place where I want to live and die
Is a haven of reclaimed sand.

• • •

IN A VALE OF SAGUAROS

BY PAUL ALEXANDER BARTLETT
Tucson, Arizona

In a vale of saguaros I found a flint,
Arrowpoint of brown in setting of sunset
rose.

In my hands I held the point; its polished
glint
Sang up to me, reflecting the sunset's close.

Glad was I to retrieve this brown desert jewel,
And now, now it sang to me of bygone days,
Days of calmness, when great patience was the
rule;
And softly it sang to me of trackless ways.

APRIL, 1940

Dune Secrets

BY LOUISA SPRENGER AMES
Mecca, California

There is promise of flowers in the dunes to-
night.

Deep in the heart of things
There stirs the response of tomorrow's blooms
To the song that the soft rain sings.
And the million mirrors of gleaming sand
Are mistily veiled and dim,
For a far grey shroud has been hung today
Over the desert's rim.

The wee wild things of the wilderness
Are viewing with hurt surprise
The beat and the flood of chilling rain
From the once so friendly skies.
Yet now above the mountain lines
The waning light breaks through,
And while the night draws slowly down
There shines a glimpse of blue.

Oh, there's a promise of flowers in the dunes
tonight
Because it has rained today!

• • •

DESERT NIGHT

BY MARY B. TRACY
Salt Lake City, Utah

Deep shadows now the earth's strong body
mark;

The summer night is warm and soft and dark.
She sweetly stoops, the drowsy sands caressing,
The mountain tops, her tender bosom pressing.

Gowned in velvet rich with starry lace,
Night slips into the desert's vast embrace.

DESERT CREED

BY JUNE LE MERT PAXTON

Old mother earth in a fit of laughter,
(Aeons ago — or perhaps it was after.)
Shook so hard that with one vast sweep
Mountains appeared and canyons, deep.

LONELY CAMPSITE

BY JUNE HOUSTON
Tucson, Arizona

Charred wood, and rusty cans
Broken stove and coffee pot,
Lying there among the sands,
Lying there and left to rot.

Some prospector perhaps it was,
Camped, and then went on his way.
Did he find his buried treasure?
Was he young, or old and grey?
These few things, the wood and cans
Broken stove and coffee pot
Lying there among the sands,
If they could speak—but they can not!

• • •

DESERT SONG

BY LILLIAN M. OLIVIER
La Mesa, California

Flame-tipped Ocotillo—
Bent by winds that blow;
Desert skies above you,
Desert sands below.
Distant guardian mountains,
Watching over all;
Wind in sage and cacti
Voice the Desert's call.
Misty, wraithlike smoke trees,
Golden paloverd—
Whisper in the dawn light,
Songs no man has heard!
Purple dusk of twilight,
Low hung stars above;
Night time on the Desert —
Desert that I love!

• • •

RESPIRE

BY EVA CARPENTER IVERSEN
Encinitas, California

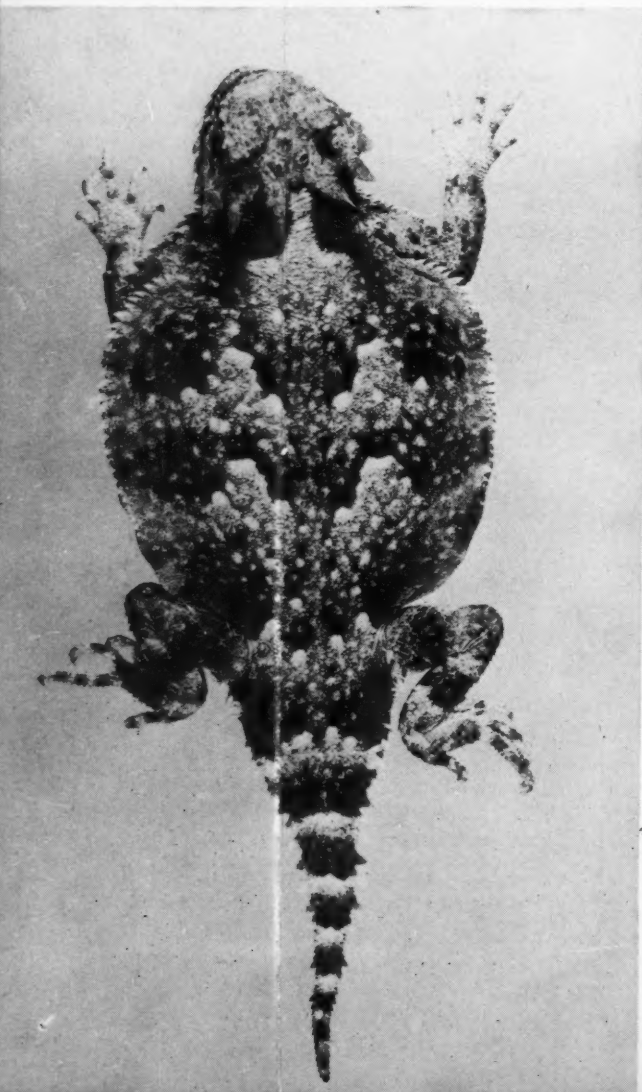
Sometimes when across the desert wastes I go,
I feel a holy peace . . . and seem to know
That in some far off future I shall be
A slave whose chains are riven . . . a soul
set free.



Western Scaly Lizard

Giant reptiles which once roamed the face of the earth have long since disappeared — but their miniature descendants still are found in the desert region. They are the lizards that scoot from rock to rock as you meet them in the arid region. They are interesting little fellows when you become acquainted with them — and with one exception, those found in the Southwest are harmless. In the accompanying text, Cyrus S. Perkins gives you at least a speaking acquaintance with some of the most common lizards found in the great American desert.

Desert Horned Toad



Desert Iguana

A FELLOW herpetologist (less romantically known as reptile man) and I have just finished a trip across some of the great Southwest. Altogether we covered 2600 miles, most of which was through true desert regions. Reviewing our experiences to friends recently, we realized somewhat to our astonishment that outside of a few birds and insects the only desert animal life we had seen consistently had been lizards. A list of nine varieties would cover those seen most frequently. If a person were to know a little something about these nine and how to distinguish them, he would be rather well acquainted with desert lizard life in the Southwest.

Of the nine most common desert lizards, there is but one that is a night crawler. This is the Western Gecko *Coleonyx variegatus*, often called "child of the earth." It is well marked with alternate bands or blotches of white or yellow and brownish-red. Rarely is one found larger than four or four and one-half inches long. When in danger it holds perfectly still and waves its tail slowly back and forth. When the enemy is attracted by this moving tail and seizes it, the tail comes off, and away the Gecko scoots to safety. It isn't long before a new tail replaces the lost one.

Although many lizards are found occasionally after dark, this little fellow is almost exclusively a night prowler. I venture to say that almost everyone who is in the habit of driving on the desert at night has at some time or other seen Geckos crossing the road. I have never seen one during the daytime, but countless are the times I've stopped the car at night to watch the little fellow catch insects for its supper.

To the Mexican people the Gecko is known as *salamanqueja* and is notoriously a bad creature. How it acquired such a reputation is hard to understand, for no lizard is more harmless and delicate. I once asked an Indian why he was afraid of the Gecko, and he replied that he had seen a dog die from the poisonous scratches inflicted by the fingers of this "devil" lizard. All of which is nonsense as you may well believe if you examine one closely. If someone tells you of the dangers of this or that lizard, just remember that the only poisonous lizard in the United States is the Gila monster. All of the others are harmless.

Largest of all Southwestern desert lizards with the exception of the Gila Monster and the Chuckawalla, is the Desert Iguana *Dipsosaurus dorsalis dorsalis*, sometimes called Desert Crested Lizard. This fellow is large and white with red-brown blotches on the back and brown rings on the tail. The bigger ones may measure 16 inches, and most of this is tail.

Harmless Reptiles of the Desert

By CYRUS S. PERKINS

Photographs by the author and L.

Pen sketches by Norman Bild



Long-Tailed Lizard



Desert Whiptail Lizard



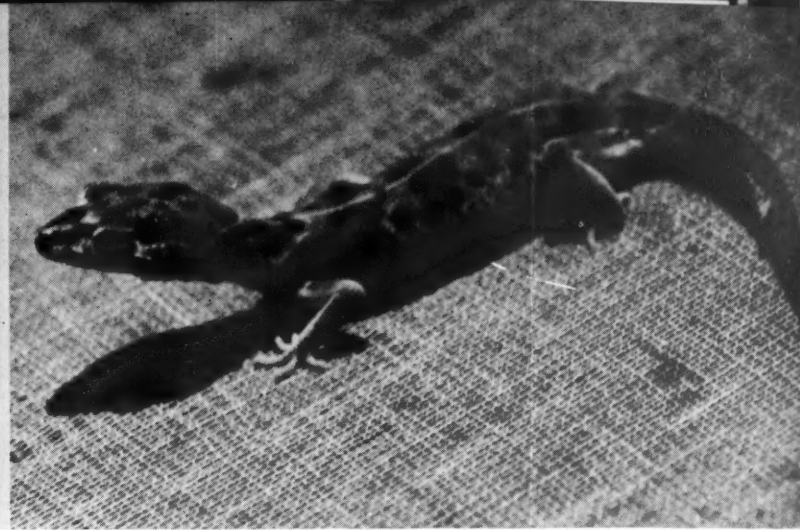
Large-Footed Lizard



Zebra-Tailed Lizard



Desert Iguana



Western Gecko

Desert Reptiles

By CYRUS PERKINS

Photos by the author and L. M. Klauber
Sketches by Herman Bilderback



Long-Tailed Brush Lizard



Whiptail Lizard



Fringe-Footed Sand Lizard



Desert Zebra-Tailed Lizard

Next to the Zebra-tailed lizard it probably is the swiftest runner of all of the desert lizards. Running at top speed, its front legs leave the ground, and it travels almost in an upright position on its hind legs.

Desert Iguanas live in open sandy areas among scattered vegetation and occasionally are seen climbing about in bushes eating blossoms. They make interesting pets, although they are hard to feed in captivity. However, some have been known to eat celery tops. They seem to be able to stand the terrific desert heat better than any of their kin. I have seen them running across paved roads when the thermometer was at 120 degrees.

The Fringe-Footed Sand lizard *Uma notata*, is commonly found only where there is an abundance of light sand. Its fringed feet, from which it derives its name, well adapt it for traveling over these light and shifting sands. The markings on its back look like bulls'-eyes, and the whole skin resembles that of a cantaloupe. Its sides are blotched with black on white or orange.

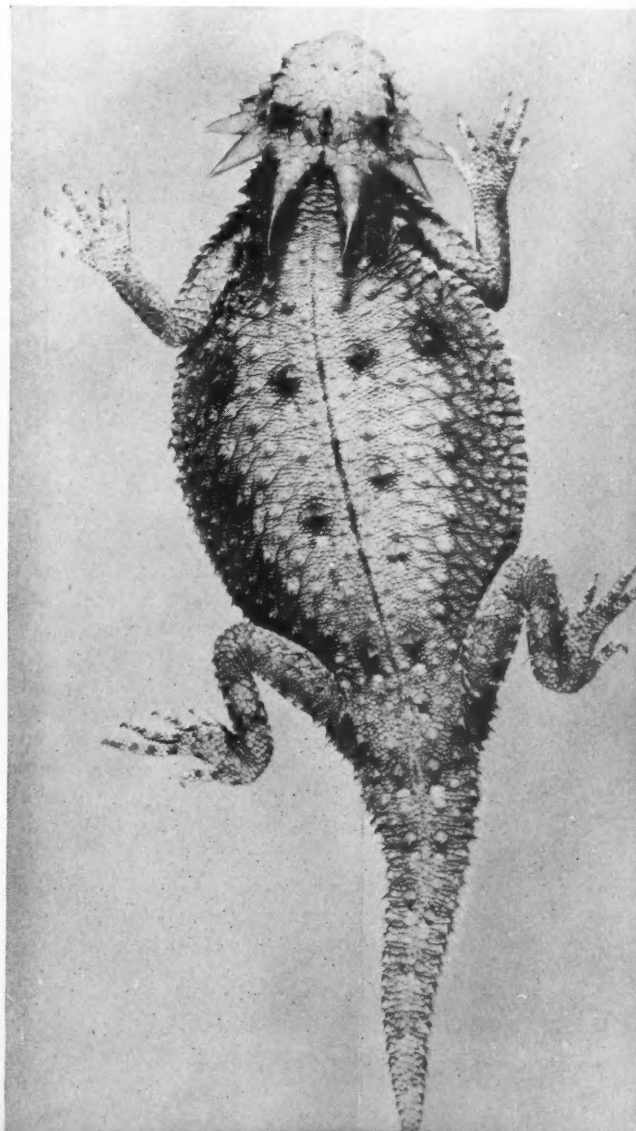
Last April I met an old timer who lives in a shack near Yuma. He said that he had seen many of these lizards on the dunes near his place "swimming through the sand." And that is actually what these fellows do. When frightened, they run at top speed along the dune, plunge in head first and swim through the sand until they are completely hidden. They are most commonly seen during the morning or late evening when they are scouting about for food which consists mainly of insects and tender plant leaves and stems—especially forget-me-nots and desert willows. Their home is any sand dune where they might bury themselves for the night.

Probably the most common lizard on the desert and certainly the one that is most often seen by desert travelers is the Desert Zebra-Tailed lizard *Callisaurus draconoides*. It got this name from the series of black bars across the white underside of the tail. The rest of the reptile is a light grey, and the males have green blotches on their sides. Fastest member of its family, I find this fellow the most interesting of them all. Time and again I have tried to study the running habits of a "Cally" but it moves a little too fast to follow with the eye. When it has covered a safe distance, however, curiosity impels it to pause for a moment to observe the pursuer. Unlike the Sand lizard, Callys do not very often bury themselves in sand but hide in holes. They live on plant blossoms and insects which they catch from morning until evening.

A lizard found only where there is an abundance

of desert shrubbery, especially mesquite or greasewood, is the Long-Tailed Brush lizard; *Uta stansburiana*. It climbs about on plant stems and hides from intruders in much the same fashion as does a squirrel, by keeping the stem of the plant always between itself and the observer. It is hard to see one of these fellows, so perfectly does its color change to match that of the surrounding vegetation. Rarely will this Uta leave its bush and descend on the ground. Even during the night it very often stays on its stem. In fact, some collectors have had good luck in observing the Long-Tailed Brush lizard at night

Flat-Tailed Horned Toad



with flashlights. The reflection of the light beam on its white stomach as it clings to the far side of a stem makes it easily seen. When not in its bush, it spends most of the time in holes at the base. Its food consists mainly of insects.

The Desert Scaly lizard, *Sceloporus magister magister*, is especially common around the region of the Colorado river. It is a rather large, heavy-bodied reptile with sharp-pointed scales. The males are vividly colored with blue, green and yellow, and have a black collar. This species eats insects and other small animal life almost entirely. I had one for a pet for sometime, and as far as I know it ate nothing but flies, grasshoppers and meal worms. I have never seen one eat another lizard, although they are known to do so. Sometimes they live in rocks, but most commonly they are found in brushy country and around trees.

The most common horned toads in the arid region are the Desert Horned toad *Phrynosoma platyrhinos platyrhinos*, and the Flat-Tailed Horned toad, *Phrynosoma m'callii*. Of these two the Desert Horned Toad is seen most frequently. It is found everywhere on the desert under almost all conditions.

It is easy to distinguish between these two species because the Flat-Tailed toad has a line down the center of its back, while the Desert Horned toad has not. Of course, the most notable feature of the horned toad is the set of horns on its head. It is a true lizard, and only a toad in name.

Horned toads live almost entirely on insects—preferring ants. It is quite amusing to watch one of them stand in the center of an ant hill and flick its tongue here and there as it sweeps up one ant after another. I have never seen a horned toad out after dark. Usually it will bury itself in loose earth or sand and spend the night there. Under certain conditions, particularly when frightened or hurt, it will spurt a thin stream of blood from one or both eyes.

Last in our list of nine common desert lizards is the Desert Whiptail lizard, *Cnemidophorus tesselatus tesselatus*. This is a long-tailed and rather spotted fellow with a long, pointed snout. One of the easiest ways of spotting a whiptail is to watch it run. Instead of traveling with a fast, deliberate pace as most lizards do, it runs with sort of a casual and jerky movement—appearing to slink along. It will eat anything in the way of insects. It is found in all types of habitat from rock to brush and is most commonly seen in the early morning.

There are many Southwestern desert lizards that have not been covered in this article. There is the big, fat Chuckawalla

TRUE OR FALSE

Very few people have a broad enough knowledge of the desert to answer more than 15 of these True or False questions

correctly. But those who are following this puzzle page each month eventually will acquire a wide field of information on many worthwhile subjects. The test includes history, geography, botany, mineralogy, zoology, general lore of the desert and some good hard common sense. Grade yourself 5 points for each correct answer. If you score a total of 50 you are above the average in your knowledge of the desert. A grade of 75 qualifies you for the exclusive Order of Desert Rats. If you score 90 points you are one of those super persons known as Sand Dune Sages. Answers are on page 37.

- 1—Desert drivers should carry chains to put on their car wheels when driving in heavy sand. True..... False.....
- 2—Saguaro cactus formerly was one of the main sources of food for the Pahute Indians of Nevada. True..... False.....
- 3—Father Garces was killed in an uprising of the Indians at Yuma, Arizona. True..... False.....
- 4—White Sands national monument is located near Alamogordo, New Mexico. True..... False.....
- 5—Ocotillo puts on a new crop of leaves after every heavy rain regardless of season. True..... False.....
- 6—Screwbean mesquite generally grows a much larger trunk than honey mesquite. True..... False.....
- 7—The only poisonous lizard found in the desert Southwest is the Gila Monster. True..... False.....
- 8—The break in the Colorado river which filled Salton sea in 1905-06 was closed by U. S. Army engineers. True..... False.....
- 9—Wasatch mountains may be seen on a clear day from Palm Springs, California. True..... False.....
- 10—Butterfield stage stations were welcome havens for the gold-seekers of '49 who entered California by the southern route. True..... False.....
- 11—Sand verberna really is not verberna, but belongs to the Four o'clock family. True..... False.....
- 12—When a Navajo woman dies her husband becomes sole owner of her herd of sheep. True..... False.....
- 13—Billy the Kid was a noted outlaw in Utah. True..... False.....
- 14—The book "Death Valley in '49" was written by William Lewis Manly. True..... False.....
- 15—Iceland spar is the name given to a certain type of quartz crystals. True..... False.....
- 16—None of the Pueblo Indians of New Mexico have ever learned to do bead work. True..... False.....
- 17—The only four states in the United States which meet at a common corner are Utah, Arizona, Colorado and New Mexico. True..... False.....
- 18—On his historic trek in 1775-76 from Tubac to Monterey, Juan Bautista de Anza followed the route through San Geronio pass in Southern California. True..... False.....
- 19—Telescope peak overlooking Death Valley, California, was given its name because of the telescopic observatory located there. True..... False.....
- 20—Grand Canyon national monument lies entirely on the north side of the Colorado river. True..... False.....

of the rocky desert borders. Also the Gila Monster—the only poisonous lizard in the United States and one of the two poisonous lizards in the world. There are many others closely related to those I have described. The ones I have mentioned are those you are most likely to come upon in your desert travels—the lizards with which everyone should be acquainted.

Next time you take a trip through the desert regions of the Southwest, you will see these fellows running back and forth across the road. They are your desert

hosts, and if you know a little something about them and their habits, it will help you to feel more at home on the desert. You will begin to realize that life on the desert is just as real as that found anywhere—the only difference being that it is necessary to be more observant and to delve a little bit deeper to find it.

Lizards are an important part of desert life. They are not only harmless, but are beneficial and extremely interesting. You'll know and like the desert better when you are acquainted with the lizard family.

They follow the trails with a pack on their backs . . .

For those nature-lovers who like to explore the remote mountain and desert trails and enjoy the supreme thrill of "living out of their backpacks" for three or four days or a week at a time, it is now possible to traverse a foot trail that leads from Mexico to Canada.

Known as the Pacific Crest Trail, this 2300-mile route passes through five national parks, and 19 national forests located in the states of Washington, Oregon and California.

The trails are located just beneath the summit crests of the great mountain walls of the Cascade range in Washington and Oregon and the Sierra Nevada in California. The Cascade Crest trail is 440 miles in length. The Oregon trail is 410 miles long. The California system includes the Lava Crest trail from Oregon to Yuba Gap and thence to Tahoe, Yosemite Tehachapi pass by way of Mt. Whitney. The Desert Crest trail covers 480 miles from Tehachapi to Mexico by way of Cajon pass and Mount San Jacinto.

The Desert Crest trail will afford opportunities to those who are physically able and sufficiently skilled to enjoy mountain climbing and life on the open trail by the backpacking method during the winter season when the rest of the Pacific Crest is blocked by snow.

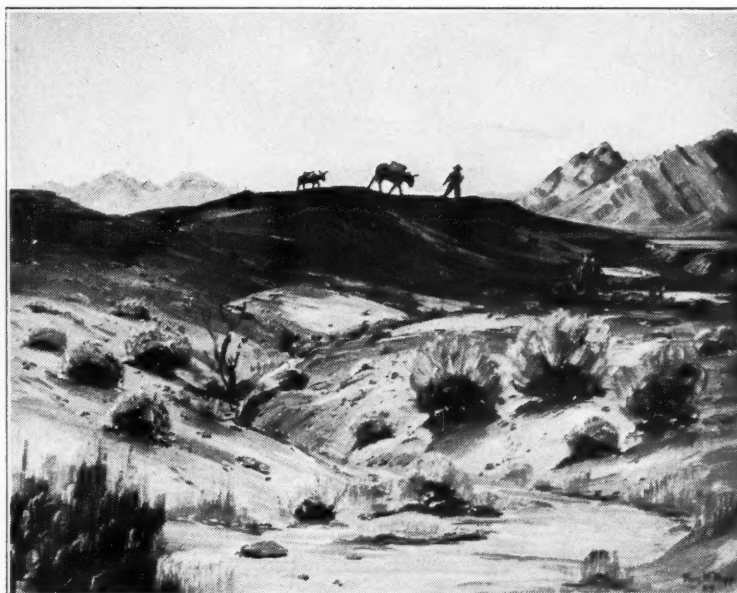
The Desert Crest trail is a pathway of wide horizons and a great variety of mountain scenery, traversing a semi-tropical region along the summit ridges rising above the desert country.

Although there are fine camps with good water and stone fireplaces at approximately 15 mile intervals across the desert there is only limited pasture or green feed for animals.

The trip may be made with backpack or with pack animals. For those who prefer the former method it is surprising how much food and bedding can be stowed in a knapsack that weighs only 15 or 18 pounds. Sleeping bags of down are available that weigh 3½ pounds, or even less—and provide all the warmth needed even in high altitudes.

Experienced hikers with packs that weigh less than 30 pounds have remained on the trails away from all sources of food supply for 10 days without hardship.

It is a form of adventure not limited entirely to youth. Older members of the hiking fraternity, take a more leisurely gait, but get none the less enjoyment from the experience, and a surprising number of women are now seen on the backpack trail during the vacation season.



To the Old Water Hole

Painting by
ROY M. ROPP

Rendezvous for Desert Artists

By K. PHILLIP FREDERICK

The desert "gets" its man—and woman too. But unlike the quick-shooting buckaroo of the films, when the desert gets its man the world often gains a new interpreter of this last frontier of the great outdoors, a singer of sagas of vast space and tumbling hills, of souls free and born anew.

So, when the desert finally "got" Roy M. Ropp and his wife, Marie, it was not to lay him low, but to lift him to new heights of artistic expression. As the re-

sult, a new art colony at Twentynine Palms may rise.

For Roy Ropp is a man of ideas, as well as ideals. Long a prominent member of the Laguna Beach art colony, he is internationally famous as the creator and director of the Pageant of the Masters—living reproductions of famous paintings, which forms the major part of the program and chief attraction in Laguna's annual Festival of Arts.

Ropp came to Twentynine Palms as a confirmed lover of the desert. For many years he has known its lure, and frequently has left his business and his studio at Laguna Beach to travel into the arid regions of California, Arizona and New Mexico—to see, to dream and to paint.

His appointment as resident manager of the Twentynine Palms village opens the way for new opportunities as a portrayer of the desert. Already Ropp visualizes his new field as an ideal place for the development of an art colony rivaling such centers of the palette and brush as Laguna Beach and Carmel.

One of the most picturesque oases on the American desert, the Twentynine Palms plateau is the one place where the native palm of the Colorado desert meets the grotesque Joshua of the Mojave—and here is inspiration to warm the heart of any artist.

Ropp's painting "To the Old Water Hole," which is reproduced on this page is now hanging with the current exhibition of art work at Twentynine Palms Inn.

Easter on the Desert . . .

As the sun rises over the horizon on Easter morning this year, special services will be held at many of the conspicuous landmarks in the desert Southwest. Announcements have been received by the Desert Magazine of the following outdoor Easter programs:

Grand Canyon, international broadcast. Music by Flagstaff state teachers college a capella choir, directed by Dr. Eldon A. Ardrey.

Zion Easter Pageant, Zion national park, Utah.

Papago Park, Phoenix, Arizona.

Mt. Signal, Calexico, California. Mrs. W. H. Lorenz, director of music.

Travertine Point, Easter cantata, Coachella valley. Mrs. R. M. Wood, Thermal, director.

Aztec Ruins National Monument, New Mexico.

White Sands National Monument, New Mexico.

CACTI

This page belongs to the growing fraternity of cactus and succulent collectors. Hobbyists in this fascinating field are invited to send in their notes and suggestions to the Desert Magazine.

LUCILE HARRIS, Editor

PHELLOSPERMA TETRANCISTRA

By ROY MILLER

Do not let the long name of this plant discourage you from making its acquaintance. *Phellosperma tetrancistra*! It is pronounced just as it is spelled and once you have mastered it, you will find that it rolls off your tongue in a fascinating manner.

Much more fascinating, however, is the plant itself, being just rare enough so that you seldom find one if you are deliberately hunting for them, yet its range is so large that one may pop up before you anywhere on the desert. Its favorite territory is the Colorado and Mojave deserts of Southern California but it ranges well over into eastern Arizona, southern Nevada, up into the southern end of Death Valley and down into Baja California. It has even been reported from Utah.

It is a solitary individual—that is, it never grows in colonies as some plants do, and is never abundant anywhere. Just a lone plant here and there peeping out from under a bush or between the rocks, or clinging for its life to the side of a wash.

Three places where this plant is most readily found are—near the Carrizo station on the old Butterfield stage route—along the Colorado river between Needles and Parker dam—and in the Devils Garden section southeast of Banning, California.

Phellospermas flower through spring and summer. The blossoms are borne on the sides near the top of the plant and are about one and one-half inches in diameter. The fringed petals are purple or orchid. Occasionally a small plant may be found with 3 or 4 flowers open at the same time, completely hiding the plant.

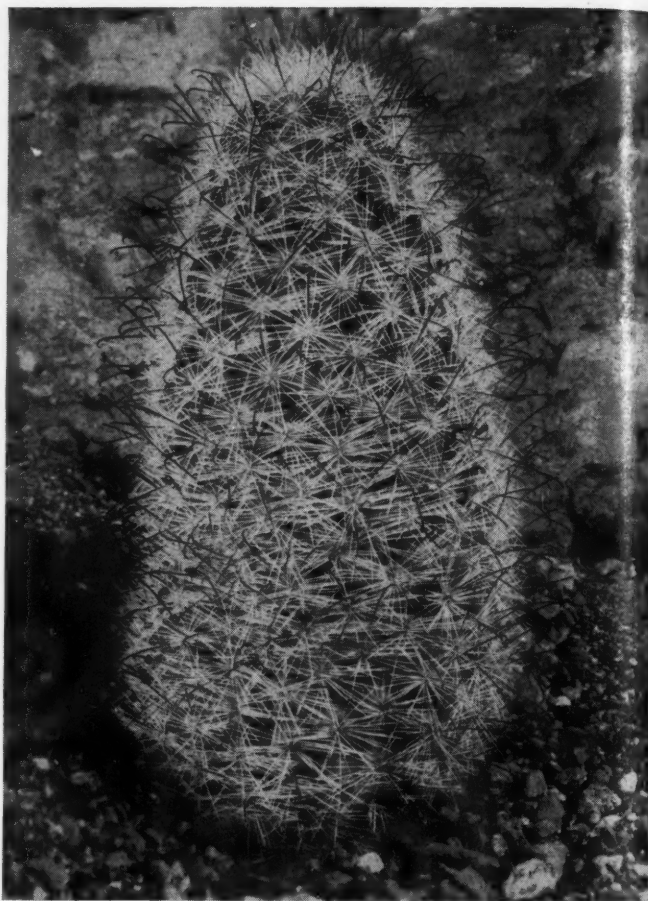
The fruit is long, smooth and red, similar to that of *Mammillaria microcarpa* with which it is sometimes confused, but the seeds furnish a positive means of identification. The word *Phellosperma* means "corky seed" and upon opening the fruit you will find that each tiny black seed actually has a base which looks and feels like cork! This is the only species in the entire cactus family having this characteristic. The fruit usually stays on the plant long after it has ripened and dried so the identification is easily made.

The species name *tetrancistra*, means "four spines" and refers to the central spines. There are not always four, however, as the number varies from one to four dark brown or black fish-hook shaped spines growing from the tip of each tubercle. These are surrounded by the silvery white radial spines, which are so numerous that they almost hide the body of the plant. They are sometimes tipped with brown.

This species seems to have two rather distinct types. One is a large, loose appearing plant sometimes reaching a height of six to eight inches and a diameter of three or four inches. This is the type usually found in Devils Garden and near Carrizo. Through the south central part of the Mojave desert may be found a smaller, tighter growing type which seldom reaches a height of three inches. Both types usually grow with a single head, but occasionally are found in clumps of three or four heads. The roots are carrot shaped and sometimes two or three parted.

Phellosperma tetrancistra was named in 1852 by Dr. George Engelmann. At that time he classed it with the genus *Mammillaria* which it closely resembles except for the seeds. On account of this difference, Britton and Rose in 1923 created the genus *Phellosperma* for this one species.

Much to the sorrow of cactus fanciers, this little plant does not take kindly to being transplanted into gardens. Once moved they usually die in less than a year, as rot infects them through the roots, ending their career. This difficulty is being overcome though, as several dealers are raising them from seed and the nursery grown plants are proving satisfactory and make a fine addition to anyone's collection. They require an airy situation, shaded or half shaded.



This photo of *Phellosperma tetrancistra* was taken by George Olin near Devil's Garden along the Twentynine Palms road.

ACTIVE CLUB AT ROSWELL . . .

Cacti of southwestern New Mexico is the particular interest of the Roswell Cactus club, a group which has been active since 1933. Field trips, collecting, culture and study engage the activities of the 16 members. Each follows his hobby in his own garden, or greenhouse devoted not only to natives but also to species of California, Mexico, South America and Africa.

At a recent meeting, Will Robinson showed a series of New Mexico cactus and plant-life pictures, and Harold Danenberg told of his experiences with cacti. Officers are John Blea president, Mrs. James Lee vice-president, I. W. Woolsey secretary-treasurer.

A desert week-end trip to Twentynine Palms and Split Rock areas is planned by the Southwest Cactus Growers of Los Angeles for April 20 and 21.

As June approaches, arrangements are being completed for the Annual Cactus Show, sponsored by the SW Cactus Growers at Manchester Playground, 8800 S. Hoover St., Los Angeles. Anyone who has anything from the desert to contribute to this educational exhibit is invited to write to the show manager, Chas. A. Place, 645 W. 40 Place, Los Angeles. The show will be free to the public.

H. O. Bullard of Hackensack, New Jersey, collector of national prominence, was speaker at the March 17 meeting of Southern California Cactus Exchange in Los Angeles. The meeting was of such interest that it was open to the public.


Arizona Cactus and Native Flora society will meet April 21 at the administration building, Papago Park, Phoenix.

CACTI AND ROCKS ARE FAMILY HOBBY IN TEXAS

When El Paso, Texas cactus fans take to the hills in pursuit of their favorite sport, it's a family affair. Nearly every weekend will find Mr. and Mrs. Club Member in their cars ready for a trip to the hills to collect cactus specimens and colorful rocks for their gardens. Campfire eats after a full day of hiking and collecting add to the enjoyment of displaying new treasures.

For six years the Cactus and Rock club has been organized, with a closed membership. Study periods, social meetings and field trips have netted an enthusiastic friendship group and some beautiful rock gardens. Current officers are Mrs. Grace Cardwell president, Mrs. F. Niedermeier vice-president, Mrs. Wm. Sachs treasurer, Mrs. R. Billard secretary and Mrs. R. H. Miller, study and publicity chairman.

Culture methods followed by the El Pasans have been eminently successful. Most of the members collect their own specimens and in transplanting they duplicate native soil conditions as nearly as possible. Gathering rocks at the same time they can add still more to the natural appearance of their gardens. They have found that most succulents other than cacti are best planted alone for they usually require more water and richer soil.



CACTUS SEED

AND PLANTS. Surprise packet mixed seed 25c with growing directions and catalog of hundreds of rare kinds.

R. W. KELLY

2410-D La Rosa Drive, Temple City, Calif.

The DESERT MAGAZINE

24-Hour Service in the Flower Parade

By MARY BEAL

LAST month we learned about the "nightshift" members of the Evening Primrose family. This month we will get acquainted with the "dayshift"—those *Oenotheras* who shed their radiance over the daylight hours and sleep at night.

Between the two of them, the day sleepers and the night sleepers, Evening Primrose has arrived at a happy division of floral activity that keeps its clan in the limelight at all hours. Twenty-four hour service, and quite sumptuous at that!

All the species of the day-blooming *Oenotheras* have globe or disk-like stigmas, and are listed as follows:

Oenothera dentata

A winsome little posy is the Mojave Sun-Cup, one to take to your heart. Wiry, very slender, shiny brown stems, 3 to 10 inches high, spread widely, spare of leafage but generous with golden blossoms, which are ½ inch or more across, the clear yellow petals ageing brick-red. Leaves are ½ to 1 inch long, shallow-toothed and slightly hairy. Corollas of the variety *johnstonii* are twice as large. The capsules are narrowly linear, 1 inch or less long, apt to be curved. The mantle of gold it spreads over broad areas attracts the eye for long distances in Mojave desert valleys, high mesas and mountain slopes.

Oenothera brevipes

A common species of engaging charm and grace, yet it bears no common name. The stem may be simple or branched from the base, 5 to 24 inches high, the leaves mostly basal. Soft silky white hairs clothe the lower herbage, more sparsely above. The slight-toothed leaves are ovate to oblong-lanceolate with purple veins and often spotted, the basal ones usually with several small lobes below a large terminal one. Each stem ends in a nodding spike of golden-yellow flowers, with very downy calyx and corolla about 1 inch across. Linear pediceled capsules are 1 to 3 inches long. Like sunshine the bright glow of these charmers illumines many gravelly washes, hillsides, and mountain slopes of the California deserts, Arizona and southern Nevada. I've ridden for many dazzling miles along slopes that fairly scintillated with their lively color.

Oenothera cardiophylla

A downy erect branching annual, occasionally perennial, 1 to over 2 feet high, quite leafy on the lower part. Heart-shaped or broadly ovate leaves, ½ to over 2 inches long, are long-petioled and more or less toothed. Dense nodding spikes of bright yellow flowers terminate the branches, the corollas ½ inch or more broad, ageing a vivid brick-red. The cylindrical ribbed capsules are hairy, 1 to 2 inches long, on short pedicels. The stigma is somewhat flattened, with a grooved cross on top. Found in washes and lower canyons of the eastern Mojave and Colorado deserts and Arizona.

Oenothera micrantha var. *exfoliata*

The Field Sun-Cup is an ashy-grey plant densely clothed with short hairs, the several leafy stems decumbent or spreading widely, 6 to 18 inches long, leaves 1 to 6 inches long, lanceolate to oblanceolate, the lower ones petioled. The yellow flowers, ¼ to ½ inch broad, spring from the leaf axils, the coiled or contorted capsules about an inch long. Found in sandy washes of the Mojave and Colorado deserts and Arizona.



Oenothera brevipes—a common little Evening Primrose
—but without a common name.

Oenothera alyssoides var. *decorticans* (*Oenothera decorticans*)

One of the commonest species of all California desert regions. It may have one or several reddish leafy stems from the base, the central stem very stout and erect, the outer slender ones spreading more or less widely, from a few to over 18 inches. The blue-green leaves, ½ to 4 inches long, are purple-spotted, lanceolate to narrowly ovate, usually slightly toothed. Ending each stem is a nodding spike of densely crowded white flowers, ½ inch across, ageing pink, accented by the reddish calyx. The rigid sessile capsules enlarge widely toward the base.

Oenothera scapoidea (*Oenothera clavaeformis*)

Resembles the preceding except the white flowers (rarely pale yellow) are pediceled and the 4-sided ridged capsules are linear to oblong and not stiff. Very common on sandy and gravelly flats, slopes and mesas of all California desert regions. Its variety *aurantiaca* has bright rose color or orange flowers and extends its travels into Arizona and Utah.

Oenothera bistorta var. *hallii*

With several hairy stems, prostrate or erect, a few to several inches long; leaves lanceolate or oblanceolate, pale grayish with appressed hairs, 1 to 3 inches long; flowers yellow, about ½ inch broad; very slender capsules curved or contorted. Found in the Coachella valley and adjoining ranges.

Oenothera refracta

Very stingy with foliage is the Spider *Oenothera*, 6 to 24 inches high, the herbage often reddish, the small flowers pale-

yellow or white, the slender capsules usually refracted. Frequent in the California deserts, Nevada and Utah.

Oenothera palmeri

Dwarfish and tufted is the Ragged Sun-Cup, the stout white-barked stems very short, leaves narrow, yellow flowers less than 1/2 inch, and ovate very small capsules with winged angles. Found in Inyo and Mojave deserts, Nevada and Arizona.

Oenothera leptocarpa

Stout-stemmed, with wand-like branches, 1 1/2 to 3 feet high, irregularly toothed or lobed lanceolate leaves mostly basal, pale-yellow flowers ageing pink, 1/2 to 3/4 inch, stamens with alternate oblong and globose anthers, linear 4-sided capsules 2 or 3 inches long, strongly refracted. Found in Arizona, Colorado and Mojave deserts.

Oenothera multijuga

One or more naked stems, 8 to 24 inches, leaves irregularly pinnate 2 to 8 inches, yellow flowers drying purplish, about 1/2 inch, linear capsules about 1 inch. Found from Inyo county ranges to Utah and Arizona.

Oenothera heterochroma

Main stem stout, 15 to 20 inches, with slender branches, leaves broadly ovate, slightly toothed, 1 to 3 inches, flowers purplish, less than 1/2 inch, in a panicle, the hairy 1/2 inch capsules rather fat. Grows in Inyo county and Nevada.

Oenothera chamaenerioides

A tiny-flowered species 6 to 12 inches high, with 1 inch narrow leaves, loose spikes of minute white or pinkish flowers and very slender capsules an inch or two long. Grows in Inyo, Mojave and Colorado deserts and as far east as Utah and Texas.

Where Wild Flowers Bloom.

Those seeking desert roads to wild flower areas haven't had to wait for the calendar's spring this year. For it has been spring over much of the desert since last fall. Intermittent rains since then have insured a continuous and increasing bloom.

In order to give its readers a guide to some of the best flower fields, as of March, the Desert Magazine has had the cooperation of observers from many points in the desert. We are particularly indebted to Eva M. Wilson of El Centro for Colorado desert information, to Mary Beal of Daggett, June Paxton of Twentynine Palms, to M. French Gilman of Death Valley, Dr. Forrest Shreve of Tucson, Arizona, Louis R. Caywood of Tumacacori national monument in southern Arizona, Frank L. Fish of Chiricahua national monument, southeastern Arizona, and to Milton J. McColm, White Sands national monument, New Mexico.

Colorado Desert

The Colorado desert's bright pattern of flowers begins in southwest Imperial county, continues through Borrego valley, over into the Salton sea basin, up the Coachella valley and is flung through the Chuckawallas and thence winds down the Colorado river basin.

In the Yuha basin-Coyote wells area, the crimson of the little monkey flower and the gold of the sunflowers recall the banners of the King of Spain which long ago were carried across their path. In contrast to their brilliance the ground is softened with the silver grey of the desert plantain and the grey-green burroweed. Pastel notes are supplied by the white and lavender desert star, sand verbena, the lilac sunbonnet and pink globes of the five-spot mallow.

In Borrego valley are found the desert senna, crimson monkey flower, phacelia, desert sunflower, desert star, purple lupin and verbena.

Purple lupin just now is the star of the Salton sea basin.

Prominent in this location are locoweed, sandpaper plant, a small buckwheat, *Coldenia plicata* and *Aster cognatus*, the latter found in Painted canyon near Mecca. Phacelias or "wild heliotrope", the desert sunflower and scarlet Chuparosa are a trio providing much color here and on up the Coachella valley.

Desert dandelion is responsible for some bright yellow splashes, notably along the road from Palm Springs to Cabazon.

Over in the Chuckawallas the delicate little ghost flower *Mohavea confertiflora* and the lilac mariposa are two of the most charming species. Desert senna, *Coldenia canescens* (Borage family) apricot mallow, evening primrose and *Nema hispidum* (Phacelia family) add to the Chuckawalla display. Again, the lupins, encelia, sunflower and phacelia are blooming abundantly.

In the Cargo Muchacho and Black mesa area north of Ogilby, California the ghost flower and sunflower are conspicuous along the roadside. This is the area where the rare fairy duster grows, and this lovely perennial met with tragedy this season. Warm winter temperatures brought out blossoms a full month ahead of the normal schedule—and then freezing weather nipped flower and foliage alike. Only a few blossoms survived the cold.

Mojave Desert

The lower elevations of Mojave desert were abloom before March, and residents believe this will be the best flower season in years.

Morongo valley is sporting the yellows of incense bush and desert senna mingled with the varied hues of phacelias, evening primroses and lupins. Over in Twentynine Palms area Joshua trees are in bud, and the desert star is prominent.

Flowers are plentiful around Ludlow, in the hills north of Argus and on the slopes of Ord mountain. Dandelion, chaenactis and sunflower were first to appear. The evening primrose *Oenothera scapoidea* is blooming everywhere, and the sand verbena which has been blooming all winter is still going strong. Apparently most of the usual species of this central area will be in flower by March 15.

A large variety of specimens were identified in the Turtle mountains. The creamy-flowered satin star, desert trumpet, lilac sunbonnet and blue-flowered chia sage were mingled with the ghost flower, five-spot mallow, evening primroses, lupins, sunflower, encelias and several phacelias.

Antelope valley, always a popular mecca for those who go to the desert to see the wild flower display will present a colorful panorama during the latter part of March and April. Among the many blossoms found there are the poppies, lupin, sunflower, several members of the phacelia and evening primrose family, mallow, bird's eye gilia, coreopsis, and in certain sections the desert candle.

Death Valley

Annuals have been flowering in Death Valley since December, 50 species being observed in February. Abundant March 1 were several phacelias, five evening primroses, two mallows, and about 10 members of the sunflower family. A few perennials and shrubs were just beginning to bloom.

Park service botanists recently found a thick growth of smoke trees *Parosela spinosa* in the Owlshhead mountains. This discovery extends the range of this species 100 miles north of its usual habitat in the Colorado desert.

Arizona

Despite a generally dry winter, February rains in southern Arizona have assured a good display for spring. Perennials to be counted on in the Tucson area, especially on the hills and rough ground are incense bush, the mallow *Sphaeralcea gracilariaefolia*, the yellow-flowered little shrub *Trixis californica* and a true verbena, *V. gooddingii*.

Plants most common in masses on the plains are *Lesquerella gordonii*, the Arizona gaillardia, orange fiddleneck and *Phacelia tanacetifolia*.

In the Tumacacori region the ocotillos have given indication that blooms will shoot out from every stalk and the palo verdes will be solid masses of yellow along the washes. Poppies, sand verbenas and cactus should bloom profusely.

The best roads to see the April bloom in this area will be along highway 89 from Tucson to Nogales and return by way of Patagonia and Sonoyta. In this way more than one plant life zone will be traversed, with a consequent larger variety of flowers.

A banner year for wild flowers in the Chiricahuas is predicted. More than 19 inches of rain since July, about four inches falling in February, should insure an unusual display. Manzanitas are beginning to blossom and the Western choke cherry is leafing. April visitors should be able to see masses of poppies in Sulphur spring and San Simon valleys, both visible from the highest point reached by automobile within the national monument. Pink penstemon, verbena, Indian paint brush and others will be seen in scattered localities in the monument.

An herbarium containing about 400 specimens ranging from wild potatoes to orchids is available for study by interested persons at headquarters building near the entrance to the monument.

New Mexico

A thorough survey of native plants in the White sands national monument has been in progress since last spring. A forecast based on last April bloom and current weather conditions indicates that the following will be in bloom: shrubby pennyroyal *Poliomintha incana*, squawbush *Rhus trilobata*, tomatilla *Lycium pallidum*, bastard toadflax *Commandra pallida*, *Phacelia corrugata*, sand verbenas *Abrophia angustifolia*, mustard *Nerisyrenia linearifolia* and the peppergrass *Lepidium alyssoides*.

INDIAN TRIBESMEN BAN USE OF SWASTIKA DESIGN

Use of the swastika design in basket making and blanket weaving was "solemnly forsworn" by representatives of four Arizona Indian tribes, in a ceremony at Tucson, Arizona accompanied by sand sprinkling and burning. Resentment at Nazi acts "of oppression" was given as reason for the proscription. Hopi Indians of northern Arizona disagree with the Tucson tribesmen. There's "no sense" in giving up the swastika, symbol of friendship among Indians for many generations, these Hopi declare. "Because the white man's cross is desecrated by some nations, should the cross be thrown away?" they ask.



Cal Godshall, general manager of the Victorville rodeo.

RODEOS combining two riding and roping events which have

been held at separate intervals in previous years, the managers of the Victorville, California, rodeos announce that the annual Collegiate rodeo and Mojave cowboy events will be held this season on successive days—April 13 and 14.

Eleven western colleges sent entrants to the Collegiate events last year. Fifteen schools from Texas A. & M. to the University of Washington, have indicated they will have entries at this year's program, which is to be Saturday the 13th.

On Sunday cowboys from ranges all over the Southwest will compete with some of the best professional riders in the world. All of them will be on an amateur basis, however, as no cash prizes are paid at the Victorville show. Numerous trophies are to be awarded, however.

Management of the program this year is in the hands of Art Manning, Cal Godshall, Andy Jauregi and E. W. Downie. Abe Lefton will act as master of ceremonies. The program is to be held in Victorville's new arena, located south of town. The 1940 rodeo is dedicated to James A. Guthrie, publisher of the San Francisco Sun.

This year's dates were arranged so that visitors from distant points would have an opportunity to view the Mojave desert's annual wild flower display while making the trip to the rodeo town among the Joshua trees.

\$1.00 TO \$2.50 OFFERED FOR COYOTE HIDES

Dealers bid in February on 1700 coyote and bobcat hides held by the federal biological survey at Albuquerque, New Mexico. The skins were collected by government trappers in a campaign against predators. Offers ranged from \$1.00 to \$2.50 for coyote furs and slightly less for the bobcats.

GIANT SAGUARO TOPPLES IN MARCH WINDSTORM

Grandfather of all saguaro cacti was felled by high wind, says a report from Phoenix. This "world's largest" giant cactus was more than 50 feet high, had 54 branches. Its huge trunk was broken by gales when March came into Arizona like a lion. The fallen monarch of the desert grew 10 miles northeast of Phoenix in the resort hotel district.

HOPi SHEEP AND GOATS ARE BEING SLAUGHTERED

Two thousand native sheep and goats are being slaughtered on the Hopi reservation in northern Arizona as part of the stock reduction program for the preservation of grazing ranges. A federal fund of \$5,000 is available for purchase of the surplus animals, and the meat is being distributed as relief to needy Hopi families.

Because of the long drought last summer, the reserve food supply of the Hopi has been reduced to a minimum according to Seth Wilson, Indian service superintendent.

RUTH COPPER PIT

Herman E. Nelson of McGill, Nevada, was the winner of the February Landmark contest of the Desert Magazine, his story of the huge copper pit at Ruth, Nevada, shown in the picture below, being judged the most complete of the large number submitted. His story printed on this page, gives a brief outline of one of the most important mining projects in the entire desert region.



By HERMAN E. NELSON

YOUR landmark photograph in the February number of the Desert Magazine shows the vast pit of the Nevada Consolidated Copper corporation, located at Ruth, Nevada. It is shaped like a gigantic stadium, excavated from solid rock.

It is about two miles off Highway 50 and seven miles from Ely, a point on Highway 93. Visitors from Southern California may also reach the Ruth pit by way of Tonopah.

Any day in the week one may stand on

the rim of this largest man-made hole in the world, and watch the smooth precision of modern day mining operation as thousands of tons of low-grade copper ore are broken down by explosives and loaded into cars by huge electric power shovels.

When 10 cars are loaded, two locomotives couple up the train, one pushing and one pulling. Around and around the pit they go, following the spiral trackway until they reach the surface above. When an ore train of 30 cars is assembled

at the top a larger engine is attached and they roll down to the modern reduction plant at McGill, 20 miles away.

Approximate dimensions of the pit are one mile in length from east to west, and 5/8 mile in width from north to south. The depth is about 700 feet. There are 13 levels.

The copper ore is low grade, and it was not until the coming of the electrical era at the beginning of the present century that the deposits became valuable from a mining viewpoint.

D. P. Bartley and Edwin F. Gray originally owned the claims where the Ruth mine is now located, while nearby claims were operated by Joe Bray and his partners, Mulford, Traylor and Hook. In 1901 a number of these properties were consolidated as the New York and Nevada Copper company. A further consolidation took place in 1902 when Mark Requa arranged for a merger under the name of the White Pine company. Then in 1904 the interests of the White Pine and the New York and Nevada groups were merged as the Nevada Consolidated Copper company. In 1933 the Kennecott Copper corporation acquired control and is now operating the property under the name of Nevada Consolidated Copper corporation.

Before milling operations could be started it was necessary to remove over a hundred million yards of over-burden. It is estimated that nearly 75,000,000 tons of ore from the pit have been milled and that a greater amount still remains in the mine to be worked.

NOTICE TO READERS

Desert Magazine has ample supply of first volume copies—all except the No. 1 issue. In order to obtain more of these first numbers to complete the No. 1 volume, we will pay \$2.50 each for good copies delivered to the Desert Magazine office. This offer applies only to Vol. 1, No. 1, published in November, 1937.

Effective with the publication of this issue of the Desert Magazine, the sale price of back numbers will be as follows:

Volume 1, first 12 copies	\$5.00
Volume 2, second 12 copies	2.50
Complete set, Vols. 1 & 2	7.00
Single copies of any back issue except Nov. '37	25c
Gold-embossed loose-leaf binders for any volume, each	1.00

In the event the complete No. 1 volume is not available for immediate delivery, orders will be held on file to be filled in the order in which they are received.

THE Desert MAGAZINE
El Centro — — — California

Giant Tower in Arizona

Who can identify this picture?



Prize Contest Announcement for April

The fortress-like tower of solid masonry shown in the picture above is located in northern Arizona — close by a well traveled highway. Many readers of the Desert Magazine will recognize this land-

mark—but not all of them will know the story connected with it.

Nearly every traveler in the Southwest will pass near this mysterious tower sooner or later—and the visit will be more interesting if it is known who erected this monument, and when and why.

In order that this information may be available for all its readers, the Desert Magazine will award a \$5.00 cash prize to the person who sends in the most complete and accurate story of not over 500 words giving the location, accessibility by highway, history and other pertinent data relating to the structure.

This contest is open to all readers of the Desert Magazine. Entries must be received not later than April 20, and the prize-winning story will be published in the June number of this magazine.

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California

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RODEO

— INTERCOLLEGIATE RODEO —

— APRIL 13th —

COWBOY CONTEST APRIL 14th



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Baker . . .

Three years partnership terminated in death when two prospectors near Amargosa spring on the edge of Death Valley shot it out in a duel after quarreling over a talc deposit. Harvey C. Brown, 58, was arrested. Nicholas E. Jegg, 64, was killed.

Needles . . .

Unanimous approval has been voted by the House Indian affairs committee at Washington for legislation which may give \$9,500,000 to \$17,500,000 to California Indians. A bill by Representative Sheppard would authorize the attorney general of California to include 25,000 California Indians in a court of claims action seeking pay for reservation lands promised but never delivered by the federal government.

El Centro . . .

California is enjoying a tourist season considerably better than a year ago. Don Thomas, All-Year club director, says auto arrivals during November, December and January total 270,634, or 38,156 more than during the same period of the preceding winter season. Thomas predicts late-season peak, points out that last year 601,369 visitors in the winter months spent \$78,260,134 in California.

Borrego . . .

For maintenance Borrego desert state park gets \$1,000 and Cuyamaca Rancho state park receives \$2,500 under appropriations approved in a concurrent resolution adopted by the state senate. The resolution was introduced by Senators Ed. Fletcher of San Diego and Robert W. Kenny, Los Angeles.

Death Valley . . .

Two remote regions of Death Valley national monument can now be visited by experienced desert travelers, according to announcement from the monument superintendent's office. Butte valley road is open all the way to Anvil springs and traffic is moving over Titus canyon.

NEVADA

Las Vegas . . .

Wild turkeys from the White river Indian reservation in Arizona will be planted in the Charleston mountains this spring, reports Robert Towle, U. S. biological survey director. Plans were completed in February to trap the birds and haul them by truck to their new home. Turkey planting at Mt. Charleston is an experiment, its success dependent on trouble predators may give. Coyotes, foxes and bobcats all would prey on the turkeys.

Reno . . .

Arizona's decision to protect fish in Lake Mead during spawning season may close one of Nevada's open season fishing locations. This announcement was made by the state fish and game commission. All-year fishing is allowed in Nevada at Walker Lake and in Churchill county, where catfish may be taken 12 months in a row. Opening date for fishing in Nevada, state law says, is May 1, but county commissioners may change the date. Generally, fishing closes in the state on September 30. Last year, 855,400 rainbow trout, 240,000 chum salmon, 308,000 brook trout and 10,000 catfish were planted in Nevada streams.

Carson City . . .

"Just fair" is how Nevadans are responding to an appeal for funds to remodel the old U. S. mint building into a state museum. A statewide committee has been appointed to seek more donations.

Goldfield . . .

Esmeralda county hasn't a lawyer in its bounds, Goldfield has no prosecutor but wants one. Amos Dow, publisher of the weekly Goldfield News, says a good, young, upstanding or headstanding attorney could make a name for himself by settling here. District Attorney George W. Tobin died in February. The job pays \$200 a month, would be sure to last two and a half years, the unexpired portion of Tobin's term.

NEW MEXICO

Santa Fe . . .

Col. John R. White, after a year in Washington as chief of national park service operations, has been transferred to this post as regional director of Region III. The Washington job will be taken by Hillory A. Tolson, who has been stationed here in the office White now assumes. White is widely known for his administration of Sequoia national park in California, where he was on duty for many years.

Roy . . .

Patrick Badley was 73 years old and managed to get along fairly well as a hermit, living 15 years in a rock cave in the mountains west of here. He listened to the advice of well-meaning townsfolk, who told him he should move to the village to live during the cold months. The house to which he moved was destroyed by fire. Badley burned to death.

Tucumcari . . .

Work is scheduled to start at once on the Tucumcari irrigation project, carrying water from Conchas dam on the Canadian river to the Arch Hurley district. Army engineers finished Conchas dam in the fall of 1939. It will cost millions of dollars to dig canals, build siphons, bridges and piping to open thousands of desert acres here for settlers.

Albuquerque . . .

New Mexico and other southwestern states are assured 1940 will be the greatest entertainment year in the history of the country, says Dr. James F. Zimmerman, president of the state's Coronado centennial commission. A goodwill party of Mexican officials will take part in opening ceremonies of the Coronado celebration at Bernalillo and Albuquerque in May, headed by Dr. Ramon Beteta, undersecretary of foreign affairs from Mexico City. Twenty major pageants will be sponsored by the commission in observing 400th anniversary of Coronado's arrival on his quest of the seven mythical cities of gold. Plans are being made for 165 folk festivals in which more than 10,000 persons will take part.

Albuquerque . . .

New Mexico university wants to swap cow trails with Santa Ana Indians. Congress must authorize exchange of land which will give the university the strip it wants, providing at the same time a new path for Indians' cows to the Rio Grande.

Clovis . . .

Richard Hindley, publisher of the Clovis News-Journal, and his associate Earl Grau, have bought the Tucumcari Daily News from Mrs. Pauline Sartain. Grau will take over management of the Tucumcari paper.

UTAH

Salt Lake City . . .

Utah may withdraw its opposition to establishment of Escalante national monument along the Colorado river in the southeastern part of the state. Gov. Henry Blood, after conference with national park officials, said a possible solution has been worked out. The state feared establishment of the monument would bar irrigation and power development. Problem is to set up a recreational area and to permit at the same time development of all other natural resources. Utah wants federal aid to irrigate its Great Valley from the Colorado river.

Ogden . . .

National park areas in Utah will be administered from Region Three headquarters at Santa Fe, instead of from San Francisco, under transfer orders received here.



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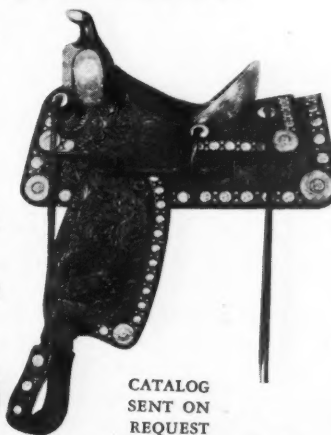
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Dates take first place in cash returns from Coachella valley's orchard and field crops in 1939, says a report by H. G. Bloom, agricultural inspector for the district. From 15,570 acres growers received \$1,744,693.25 for all crops listed. Date acreage was 2,954, of which 2,534 were producing, with \$374,601.75 returns. Second came tomatoes, \$237,600 from 450 acres. Thompson seedless grapes were third, \$193,881.60 from 3,793 acres, 1,775 bearing. Fourth was grapefruit, \$178,457.18 from 2,260 bearing acres. Green corn brought \$156,000 from 1,250 acres, green beans \$150,604 from 1,031 acres. Date yield was nearly 5 million pounds, average price 7½¢ per pound.

Baker ...

Three years partnership terminated in death when two prospectors near Amargosa spring on the edge of Death Valley shot it out in a duel after quarreling over a talc deposit. Harvey C. Brown, 58, was arrested. Nicholas E. Jegg, 64, was killed.

Needles . . .

Unanimous approval has been voted by the House Indian affairs committee at Washington for legislation which may give \$9,500,000 to \$17,500,000 to California Indians. A bill by Representative Sheppard would authorize the attorney general of California to include 25,000 California Indians in a court of claims action seeking pay for reservation lands promised but never delivered by the federal government.

El Centro . . .

California is enjoying a tourist season considerably better than a year ago. Don Thomas, All-Year club director, says auto arrivals during November, December and January total 270,634, or 38,156 more than during the same period of the preceding winter season. Thomas predicts late-season peak, points out that last year 601,369 visitors in the winter months spent \$78,260,134 in California.

Borrego . . .

For maintenance Borrego desert state park gets \$1,000 and Cuyamaca Rancho state park receives \$2,500 under appropriations approved in a concurrent resolution adopted by the state senate. The resolution was introduced by Senators Ed. Fletcher of San Diego and Robert W. Kenny, Los Angeles.

Death Valley . . .

Two remote regions of Death Valley national monument can now be visited by experienced desert travelers, according to announcement from the monument superintendent's office. Butte valley road is open all the way to Anvil springs and traffic is moving over Titus canyon.

NEVADA

Las Vegas . . .

Wild turkeys from the White river Indian reservation in Arizona will be planted in the Charleston mountains this spring, reports Robert Towle, U. S. biological survey director. Plans were completed in February to trap the birds and haul them by truck to their new home. Turkey planting at Mt. Charleston is an experiment, its success dependent on trouble predators may give. Coyotes, foxes and bobcats all would prey on the turkeys.

Reno . . .

Arizona's decision to protect fish in Lake Mead during spawning season may close one of Nevada's open season fishing locations. This announcement was made by the state fish and game commission. All-year fishing is allowed in Nevada at Walker Lake and in Churchill county, where catfish may be taken 12 months in a row. Opening date for fishing in Nevada, state law says, is May 1, but county commissioners may change the date. Generally, fishing closes in the state on September 30. Last year, 855,400 rainbow trout, 240,000 chum salmon, 308,000 brook trout and 10,000 catfish were planted in Nevada streams.

Carson City . . .

"Just fair" is how Nevadans are responding to an appeal for funds to remodel the old U. S. mint building into a state museum. A statewide committee has been appointed to seek more donations.

Goldfield . . .

Esmeralda county hasn't a lawyer in its bounds, Goldfield has no prosecutor but wants one. Amos Dow, publisher of the weekly Goldfield News, says a good, young, upstanding or headstanding attorney could make a name for himself by settling here. District Attorney George W. Tobin died in February. The job pays \$200 a month, would be sure to last two and a half years, the unexpired portion of Tobin's term.

NEW MEXICO

Santa Fe . . .

Col. John R. White, after a year in Washington as chief of national park service operations, has been transferred to this post as regional director of Region III. The Washington job will be taken by Hillory A. Tolson, who has been stationed here in the office White now assumes. White is widely known for his administration of Sequoia national park in California, where he was on duty for many years.

Roy . . .

Patrick Badley was 73 years old and managed to get along fairly well as a hermit, living 15 years in a rock cave in the mountains west of here. He listened to the advice of well-meaning townfolk, who told him he should move to the village to live during the cold months. The house to which he moved was destroyed by fire. Badley burned to death.

Tucumcari . . .

Work is scheduled to start at once on the Tucumcari irrigation project, carrying water from Conchas dam on the Canadian river to the Arch Hurley district. Army engineers finished Conchas dam in the fall of 1939. It will cost millions of dollars to dig canals, build siphons, bridges and piping to open thousands of desert acres here for settlers.

Albuquerque . . .

New Mexico and other southwestern states are assured 1940 will be the greatest entertainment year in the history of the country, says Dr. James F. Zimmerman, president of the state's Coronado centennial commission. A goodwill party of Mexican officials will take part in opening ceremonies of the Coronado celebration at Bernalillo and Albuquerque in May, headed by Dr. Ramon Beteta, undersecretary of foreign affairs from Mexico City. Twenty major pageants will be sponsored by the commission in observing 400th anniversary of Coronado's arrival on his quest of the seven mythical cities of gold. Plans are being made for 165 folk festivals in which more than 10,000 persons will take part.

Albuquerque . . .

New Mexico university wants to swap cow trails with Santa Ana Indians. Congress must authorize exchange of land which will give the university the strip it wants, providing at the same time a new path for Indians' cows to the Rio Grande.

Clovis . . .

Richard Hindley, publisher of the Clovis News-Journal, and his associate Earl Grau, have bought the Tucumcari Daily News from Mrs. Pauline Sartain. Grau will take over management of the Tucumcari paper.

UTAH

Salt Lake City . . .

Utah may withdraw its opposition to establishment of Escalante national monument along the Colorado river in the southeastern part of the state. Gov. Henry Blood, after conference with national park officials, said a possible solution has been worked out. The state feared establishment of the monument would bar irrigation and power development. Problem is to set up a recreational area and to permit at the same time development of all other natural resources. Utah wants federal aid to irrigate its Great Valley from the Colorado river.

Ogden . . .

National park areas in Utah will be administered from Region Three headquarters at Santa Fe, instead of from San Francisco, under transfer orders received here.



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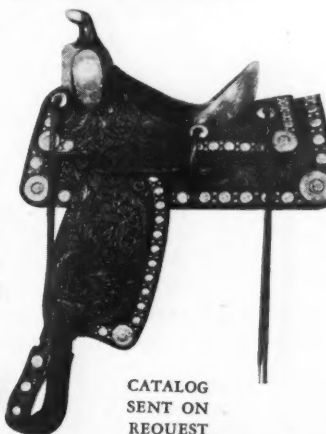
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Man and Beast in Gypsum Cave . . .

Continued from page 5

—where the deposit of dung had first aroused my interest, we found another dartpoint similar to the first, this time in a stratum of soft gypsum between two layers of sloth dung. Near it, in the same gypsum, lay a sloth bone, and in the dung above it the slender bones of a small camel's leg.

Evidently the point had been lost by some early man who visited the cave when this part of it had been temporarily abandoned by the sloths. After his departure the weird beasts returned, and during their time some growling flesh-eater dragged in the leg of the little llama-like camel.

One of our most amazing and unexpected finds was a series of fragments of the wooden dartshafts, and the foreshafts to which such points had been attached, preserved by the dryness of the cave since sloth days. Some of the former show painted patterns, which at the present writing are the oldest known examples of American decorative art: bands, spirals, dots, little diamonds and squares, zigzags in red, green, brown and black on the natural yellowish wood.

We had found a number of these in various parts of the cave, but not under conditions that would determine their age. Consequently we were delighted when E. G. Ward, an old-time miner whom we engaged when the staff was enlarged, discovered several in a test hole he was digging in Room 2, the entrance chamber of the cave, from eight to eight and a half feet below the surface.

The depth in itself was not necessarily a proof of age, but fortunately the shaft-fragments were found between some large rocks, above which lay a deposit containing hair and dung of the sloth. Possibly the shafts were broken when hurled at one of the queer creatures sunning itself in the vaulted chamber.

Perhaps the most convincing find of all was made in Room 1, to the left of the entrance chamber. This had been a camping place for aboriginal visitors to the cave from time immemorial. In the upper layers here we found relics of the more recent Indians: arrows from the Pahutes, painted pottery from the early Pueblos, dartshafts from the ancient Basketmakers. Below these came several feet of cave rubbish without a trace of man—then ground sloth dung, a double layer of it. Below the dung we came upon the ashes and wood charcoal of a one-time campfire which had been built and

extinguished before the sloths had decided to bed in this chamber.

There were other finds in different parts of the cave, showing that man had visited the place while the sloths were in possession.

You will ask when did man meet the sloth face to face in Gypsum cave? To answer that question we considered the problem from various angles. The finding of five species of Ice Age animals now extinct, in the cave deposits, suggested the Glacial Period. But after we had studied the water-borne sand and gravel below the sloth layers we were compelled to say "Post-Glacial."

Yet the climate must have been different from that now prevailing in southern Nevada, for an analysis of the dung showed the sloth had fed mainly on the leaves of the Joshua tree, which no longer grows near Gypsum cave.

Finally we studied the deposits above the sloth dung in Room 1 and figuring our rate of deposition from the depth of the more recent Indian layers, we concluded that the sloth period of the cave might be roughly about 8,500 B. C. Today in the light of recent knowledge, I would be inclined to knock off about a thousand years from that estimate.

Watering Place on the Devil's Highway . . .

Continued from page 10

cable to the granite where these upper tanks are located.

"If you will lie down and slide into that narrow slit in the rock," he told me, "you will see something worth while."

I followed his instructions, squirming on my back into the low-hung cave. Six or eight feet back into the cavity I suddenly discovered the design in blue pigment directly over my nose. After I became accustomed to the darkness I saw other pictographs in the narrow cavern, but none to compare with this ancient symbol of the sun.

Those Indians who dwelled here 250 years ago may have been naked and poverty-stricken as Don Manje describes them—but there was one among them who was an artist. The symmetry and the coloring of the design and the surpris-

5000 BUFFALO SURVIVE IN ALASKA AND 38 STATES

Uncle Sam has been counting American bison again. This time the biological survey finds slightly more than 5,000 buffalo in the United States and Alaska, and comments that probably 60 million of the shaggy beasts roamed the ranges 100 years ago. Census takers list buffalo on federal, state, municipal and private holdings in 38 states, the territory of Alaska and District of Columbia. Total buffalo population is 5,029, 200 of them in Alaska, and the count does not include the entire calf crop of the year, nor does it account for an estimated 600 animals whose owners are unknown.

Montana leads the states with 1,044 bison. South Dakota is second, with 955; Wyoming third with 922, and Oklahoma fourth with 639. Arizona has 95, California 90, Nevada 2, Utah 2, Texas 100.

. . .

WILL ENLARGE MUSEUM TO HOUSE POOLE BASKETRY

Nearly 2500 specimens of American Indian basketry will be housed and displayed in a special wing of the Southwest museum at Los Angeles. The collection was presented in the spring of 1939 to the museum by Col. John Hudson Poole, who now has given the funds for building the addition to the museum. A feature of the exhibition hall will be 12 dioramas, illustrating as many basket-making tribes, which will occupy recesses in the walls.

ing location make it one of the most noteworthy of all the ancient Indian symbols found in the Southwest. The Indian who painted it must have lain there for many hours working close above his face, with his feet dangling precariously over a 50-foot precipice.

I would recommend the Tinajas Altas trip for those who have acquired a philosophical acceptance of 10-mile-an-hour roads. You can camp in the well-sheltered cove at Raven butte tanks, or you can unroll your sleeping bag beneath an ancient ironwood tree in the peaceful solitude of Tinajas Altas.

There are neither tax collectors nor stop-an-go signals on the Lechugilla desert. It is the kind of place that makes poets want to write poetry — and the others wish they could.

Writers of the Desert . . .

Born in Ann Arbor, Michigan, one of MARK RAYMOND HARRINGTON'S boyhood pastimes was collecting Indian arrowheads and listening to ancient legends from the lips of living tribesmen.

It was only natural then that he should major in archaeology and ethnology later when he was a student at the university of Michigan and Columbia. Following his graduation he did field and museum work for the American Museum of natural history, the university of Pennsylvania museum, the Heye foundation and other institutions.

Twelve years ago he became associated with the Southwest museum of Los Angeles, and for the past 10 years has been curator there. It was on one of the field trips for the museum that he had the experiences related in his story Man and Beast in Gypsum Cave, written for this number of the Desert Magazine.

Harrington's home is in Los Angeles and his time is divided between the museum and field work. His most recent important find was in 1938 when he was in charge of the expedition which discovered stone implements believed to pre-date the famous Folsom man, at Borax lake in northern California.

ARTHUR JOHNSON is a mountain climber—one of the best. He does not profess to be a writer—and yet he has given to Desert Magazine readers this month a thrilling story of one of the most difficult climbing feats ever achieved in Southern California.

Climbing merely is one of Arthur's hobbies. His bread and butter comes from the water and power department of the city of Los Angeles where he is a draftsman in the engineering department. A majority of his holidays are spent in the mountains.

For three years he was chairman of the Rock Climbing section of the Los Angeles chapter of the Sierra club. During that period he was technical advisor and one of the climbers in

the film feature "Three on a Rope." "We climbed around over the rocks while they shot 14,000 feet of film," he said, "and then they used only 950 feet."

Like all mountain-climbers, Arthur harbors a secret ambition to scale one of the world's major peaks. Mt. McKinley in Alaska is the particular goal he has in mind for a future adventure.

With two or three exceptions, desert reptiles are quite harmless, despite the popular aversion toward all members of the reptile family. It was for the purpose of correcting some of the misinformation regarding these little beasts that the Desert Magazine asked CYRUS S. PERKINS to contribute to this number.

Perkins has had many years of close association with snakes and lizards, partly in the field and partly in the San Diego zoo where his father is curator of reptiles. His experience includes four trips as herpetologist with Captain G. Allan Hancock's scientific expeditions into southern waters.

He is now majoring in biology at the university of New Mexico and spending his summer vacations in field trips and doing photography work at the zoo.

DICK FREEMAN, whose picture "Curiosity" was awarded first place in last month's amateur photographic contest, is a resident of Los Angeles and a frequent traveler in the desert region. Two years ago he began studying photography in night school, and now that he has mastered the art of taking photographs which are acceptable to newspaper and magazine publishers he has turned his attention to feature writing—and is attending night classes regularly. He has a bale of rejection slips, but recently made his first sale to a national publication. And that is a grand and glorious event in the life of every aspiring writer. Dick may be in the Desert Magazine yet.

Prizes to Amateur Photographers

Each month the Desert Magazine offers two cash prizes for the best camera pictures submitted by amateur photographers. The first award is \$5.00 and the second \$3.00.

Pictures are limited to desert subjects, but there is no restriction as to the residence of the photographer. Entries may include Indian pictures, rock formations, flowers and wild animals, canyons, trees, water holes—in fact anything that belongs to the desert country.

Following are the rules governing the photographic contest:

1—Pictures submitted in the April contest must be received at the Desert Magazine office by April 20.

2—Not more than four prints may be submitted by one person in one month.

3—Winners will be required to furnish either good glossy enlargements or the original negatives if requested.

4—Prints must be in black and white, 3 1/4 x 5 1/2 or larger, and must be on glossy paper.

Pictures will be returned only when stamped envelopes or photo-mailers are enclosed.

For non-prize-winning pictures accepted for publication \$1.00 will be paid for each print.

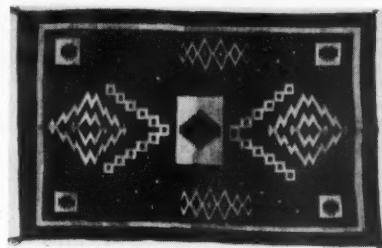
Winners of the April contest will be announced and the pictures published in the June number of the magazine. Address all entries to:

Contest Editor, Desert Magazine, El Centro, California.

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DAUGHTER TELLS INTIMATE STORY OF BRIGHAM YOUNG

Because his religious beliefs gave sanction to practices quite at variance with the orthodox Christianity of Anglo-Americans, Brigham Young never has been a popular hero except to his own people, the Mormons.

And yet few men in history played as courageous and honorable a role in the development of the western American empire as did this far-seeing president of the Church of Jesus Christ of the Latter-day Saints.

The story of Brigham Young, the indomitable leader of a persecuted religious group, has been told many times. But it has remained for one of his daughters, Clarissa Young Spencer, in *ONE WHO WAS VALIANT*, to give an intimate picture of the lovable personal character of the man as demonstrated in the daily life of his own household. Mabel Harmer of Salt Lake City collaborated with Mrs. Spencer in the preparation of the book, which was published this year by Caxton Printers, Caldwell, Idaho.

Brigham Young had 19 wives—12 of them in one household—and 51 children. "I believe that a finer group of women never lived together than my father's wives," wrote Mrs. Spencer. "They cooperated with one another to a remarkable degree, and to each one of us children the 'aunts' were almost as dear as our own mothers were."

"Much has been said and written about the great ingenuity my father displayed in organizing and directing the migration of the Mormon pioneers to the Rocky mountains—the greatest trek of its kind ever undertaken in this country. I believe he displayed a resourcefulness almost as great in keeping contented and happy more than 12 wives under one roof. For happy they really were. Undoubtedly at times there were small frictions and jealousies, but they very seldom showed on the surface, and our homes were as peaceful as any home could be."

That Clarissa Young idealized her father—and that he was worthy of the affection bestowed upon him not only by his own family but by the entire Mormon colony, are evident truths to the reader of this volume.

The authors have given not only a fine close-up of Brigham Young, but an interesting and informative view of daily lives of the Mormon people during that pioneering period when Utah was being settled.

The 280-page book is illustrated with excellent photographs of the period. \$3.00.

SYMBOLS OF THE ANCIENTS PRESERVED IN WOODCUTS

FRIJOLE CANYON PICTOGRAPHS is a rarity in modern bookmaking. It is handmade, the product almost entirely of one man, and it records cultural fragments of a vanished people.

Gustave Baumann is the producer of this 48-page book of pictograph drawings with running text. It is a 1939 publication of Writers' Editions, Inc., Santa Fe, a cooperative group of Southwest writers.

The drawings were copied by Mr. Baumann many years ago when the pictographs in Frijoles canyon caves (Bandelier national monument) were still in good condition. From his drawings he has made 26 woodcuts which he has printed in two colors on hand made paper.

The text was printed on a hand press. Typography is by Willard Clark, and the hand made case by Hazel Dreis. Foreword by Alfred Vincent Kidder. The hand press edition is 480, of which 300 are offered for sale at \$6.00.

An illuminating flash-back to Indian life 500 years ago is traced out in the sun and water symbols, snake and lightning patterns, the strikingly modern figures of warriors and hunters. And as Haniel Long comments, "here an artist has saved . . . the art of a people as it was in the dawn of their history, and with something of the surprise of dawn in his appreciation of it."

Mr. Baumann's early interest in typography and wood engraving led him to study in Munich, later to establish a studio in Nashville, Indiana. Then he came to the Southwest—to Taos and now Santa Fe, where his studio is located. He is considered one of the foremost color-print makers, having won numerous awards and being widely represented in art museums and private collections.

INDIAN LEGENDS—AS TOLD BY A HOPI TRIBESMAN

Hopi legends are retold by Edmund Nequatewa in *TRUTH OF A HOPI* and other clan stories of Shung-opovi, published in 1936 by the Northern Arizona Society of Science and Art, Flagstaff. The author is one of the few Indians who can write in his native Hopi as well as in English. The stories are amplified by more than 70 notes by the editor, Mary-Russell F. Colton.

The legends begin with the ascent of the Hopi from the underworld, and continue through the beginning of the clans and their tribal wanderings. The significance of animals and plants is unfolded. Then out of the dim memories of Spanish conquistadores and the padres come more stories—the resistance to government schools, objection to practices of the priests and to the new bewildering laws that changed ancient ways.

The first story, or origin tale is told only by the priests of the "One Horned Fraternity" in the village of Shung-opovi. Clan stories are not supposed to be told by members of unrelated clans, but those of the powerful One Horned Fraternity, of which Nequatewa is a member, may tell all the stories belonging to the clans of their village.

Black and white drawings of clan and other symbols decorate the chapter ends. 114 pp. Bibliography. \$1.75.

INDIAN RITUALS PORTRAYED IN VERSE AND PICTURE

The spirit of the Pueblo Indian is reflected in the pages of *PAGANS PRAYING*, poems by Roy A. Keech and drawings by Pop Chalee.

"With reverence and with word beauty," says Acee Blue Eagle in the foreword, Keech "describes the ceremonials, rituals, and rhythm so dominant in the life of the Indian. He has captured what so many others have failed to comprehend, the repetition that is so characteristic of all the Indian's arts."

The author is a versatile student and writer. He has learned much of Indian life not only from personal friendships, but also from the tutelage of such men as Dr. Edgar Lee Hewett, the late Dr. Hartley Burr Alexander and Kenneth M. Chapman.

Of Pop Chalee's numerous black and white

drawings the same writer asserts, "Her illustrations are unique and inestimably valuable because she is one of the foremost Indian artists in America and one of the few Indian women engaged in painting, and because she has developed an individual style highly commended by critics." See *She Breathed the Air of the Gods*, Desert Magazine, October 1939.

This 1940 publication of the Clarendon Press, Clarendon, Texas, numbers 1150 copies printed from hand-set Lydian at the Seton Village Press, Santa Fe, New Mexico. 31 poems, 11 full page drawings, 95 pages. \$2.00.

VAN VALKENBURGH WORKING ON NEW NAVAJO REPORT

Richard Van Valkenburgh, whose articles dealing with the Navajo Indians are regular features in the Desert Magazine, has written "A Historical Geography of the Navajo Country." This volume, to be issued by the U. S. department of education, is the second part of what Van Valkenburgh calls "Dinebikeyah" (Navajo Land). The first part, "A Short History of the Navajo People," appeared last summer. The "Historical Geography" will contain 11 maps, one covering the entire reservation.

This issue gives the location, population, English and Navajo names, and a brief history of all points on the reservation, also churches and missions, traders and points of general interest. It also describes cities and towns not on the reservation, but adjacent to it, which are of interest to people on the reservation as trading points.

Navajo names are descriptive. Thus they refer to the dinosaur tracks as "Birds' tracks." Framington is "Between the Waters." Flagstaff, probably the largest city many of them know, is called "The Place of Many Houses." Fort Defiance, situated in a fertile valley, is "Meadow Between the Rocks."

Chin Lee, at the mouth of Canyon de Chelly, is not a Chinese name, as some might think, but is a Navajo word signifying "Where the Waters Flow Out." Painted Desert is "Amidst the Colors," and Petrified Forest, in Navajo, signifies "Stone Logs."

TRUE AND FALSE ANSWERS

Questions on page 24

- 1—False. Chains in heavy sand generally get a driver into trouble.
- 2—False. Saguaro is not native to Nevada.
- 3—True. 4—True. 5—True.
- 6—False. Honey mesquite grows the largest trunks.
- 7—True.
- 8—False. The break was closed by Southern Pacific railroad engineers.
- 9—False. Wasatch mountains are near Salt Lake City, Utah.
- 10—False. Butterfield stage stations were not erected until 1856-57.
- 11—True.
- 12—False. Generally her daughters, or her own family inherit the sheep.
- 13—False. Billy the Kid lived his outlaw career in New Mexico.
- 14—True.
- 15—False. Iceland spar is the name given to certain calcite crystals.
- 16—False. Zuni and other pueblo tribesmen now do bead work.
- 17—True.
- 18—False. De Anza followed the route through Borrego valley and up Coyote canyon.
- 19—False. There is no observatory on Telescope peak.
- 20—True.

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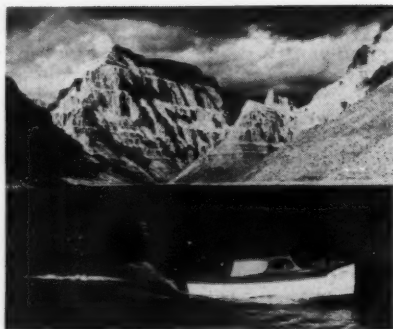
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Boulder City — Nevada

Mines and Mining . .

Blind chance uncovered many of the richest mines in the United States. This is why prospectors should keep hope burning bright, according to a miners' congress in Denver which heard recently the following history of American bonanzas:

First gold strike in Colorado was made by George Jackson when he scratched the ground with a spoon he used in cooking.

Cripple Creek's first paying producer was found by a tenderfoot who threw his hat into the air and dug where the hat fell.

A forked stick was the divining rod which located the El Paso mine at Cripple Creek and from that property more than \$10,000,000 has been taken.

Two shoemakers sat down with a demijohn of whiskey to rest. Right there they opened the Little Pittsburgh mine and gave Silver Dollar Tabor, who grubstaked them, the foundation of his fortune.

Against the wishes of his partners, O'Brien dug 2,000 feet and found the \$600,000,000 Virginia City lode.

And a straying burro kicked off the outcrop, thus discovering the Bunker Hill & Sullivan silver-lead bonanza of the Coeur d'Alenes, a fact legally established by court decision.

Washington, D. C. . . .

Nearly four million acres of land in 15 states will be opened for lease to private oil and gas prospecting July 1, says an announcement by the secretary of the interior. The area includes tracts formerly held under prospecting permits which have lapsed. In New Mexico half a million acres are included in this classification.

Reno, Nevada . . .

Nevada's section of the American institute of mining and metallurgical engineers will be headed during the ensuing year by Roy Hardy, consulting engineer for the Getchell, the state's largest gold mine. He was elected chairman when the Nevada group met here to name officers.

Artesia, New Mexico . . .

Discovery of a fourth producing oil level in the Artesia field is reported, with a new well brought in 20 miles southeast of here. This is sixth discovery of an oil pool in the area during the past 13 months. Oil was struck in lime formation at a depth of from 3,424 to 3,482 feet.

Tucson, Arizona . . .

James E. Bell of the U. S. Bureau of mines is here in charge of investigating Arizona strategic minerals deposits. He heads a survey to check 30 prospects for manganese, tungsten, mercury and antimony.

Ajo, Arizona . . .

John H. Davis, Phelps Dodge office manager at Douglas, has been appointed general manager of the New Cornelia branch here. When Michael Curley resigned the New Cornelia post to retire to California, Charles R. Kuzell was announced as Curley's successor. Since then, ill health forced W. M. Saben to quit as manager of United Verde and Kuzell now goes back to the Verde branch.

Kingman, Arizona . . .

Exploration by the Arizona Manganese corporation in the Artillery peak district is said to have disclosed important ore reserves assaying five to 15 per cent manganese. Drilling operations were resumed in February.

Prescott, Arizona . . .

Loans made by the federal Reconstruction finance corporation to miners show higher percentage of repayment than all RFC loans for other purposes. Arizona's Small Mine operators association offers this statement in support of a bill introduced in Congress by Congressman Murdock to liberalize RFC mine loans. At present RFC lends only for gold, silver and tin development. Under the Murdock bill loans would be authorized for all classes of minerals. Arizona miners council reports 47 per cent of all mine loans had been repaid to RFC up to January 1, 1940, as against 29 per cent repayment of all other loans by RFC.

Eureka, Nevada . . .

Preliminary work is going ahead for reopening of the 1200-foot four-compartment Locan shaft at the Richmond Eureka group. This is a Toronto-controlled attempt to locate segments of rich lead-silver ledges said to have yielded \$33,000,000. Nevada's state bureau of mines says the Eureka district from 1869 to 1883 produced \$40,000,000 in silver, \$20,000,000 in gold and 225,000 tons of lead. During part of that period the district is said to have ruled the world's lead market.

Goldfield, Nevada . . .

Winter rains and snow were welcomed by operators of Round mountain placers and Dodge construction company is working on a two-shift basis. Dry seasons are troublesome in this area, where the placers have been under lease to Dodge construction for two years. Reserves of profitable material are said to be in sight.

Golconda, Nevada . . .

Near Nevada's biggest gold producer, the Getchell, this camp has grown fast in the past three years. The community has more than 250 residents, with nearly 50 pupils attending the local school. Getchell started production in February 1938. Present monthly output averages 25,000 tons.

Goldfield, Nevada . . .

Deposit of the most valuable type of turquoise is reported in the Lone mountain area. Frank Livesley is said to have discovered Parisian blue specimens, taking out 40 pounds of gem material from what seems to be an extensive field. Ready for market, turquoise of this type is said to be worth \$35 to \$50 per pound.

Gems and Minerals

This department of the Desert Magazine is reserved as a clearing house for gem and mineral collectors and their societies. Members of the "rock-hound" fraternity are invited to send in news of their field trips, exhibits, rare finds, or other information which will be of interest to other collectors.

—ARTHUR L. EATON, Editor—

IRIS, OR RAINBOW AGATE FOUND IN CHOCOLATES

By Mrs. Chas. E. Faulhaber

Our family spent the New Years holiday in the Chocolate mountain district because we had previously found excellent carnelian there and wished to secure more. This trip, however, did not yield much carnelian, but only some drab fortification agate which we did not even cut for some time.

One evening, however, we did cut a piece, and noting that it had an attractive pattern we sawed a thin slice. Can anyone except a mineral collector imagine our utter amazement and delight when that specimen was held toward the light and proved to be iris agate! All the colors of the rainbow were caught and held in the minute bandings of this one piece of drab-looking stone.

None of us had ever seen iris agate, but we had read about it, and needed no one to tell us what this lovely gem was.

Iris agate is as beautiful as opal and has almost every color — red, vivid blue, green, orange, yellow, rose and violet. According to authorities iris agate is rare, only one piece in 10,000 from any given locality being of this variety.

Due to the deposition of fine layers a thin cut specimen held toward a light acts as a diffraction grating. These minute layers number from 12,000 to 20,000 or more to the inch. It is also interesting to note that this type of agate has been known only recently. Until a few years ago none of it was in the hands of collectors or even museums. None of the rest of the agate found in that trip is iris.

If any of our fellow rockhounds are on Mission Blvd., between Riverside and Ontario, California, and will stop in at the Mira Loma general store and postoffice, we will be very happy to show them this really lovely and jewel-like agate. Beauty, like gold, is where you find it and that temperamental lady called Luck has much to do with mineral collecting.

CALIFORNIA FEDERATION CONVENTION PROGRAM

Program of the fifth annual convention of California Federation of Mineralogical Societies, headquarters Santa Barbara Museum of Natural History:

Saturday, April 20:

Registration 8 a. m.

Exhibits open 10 a. m. until noon.

Roundtable discussions on

(a) Mineralogy and Gems.

(b) Lapidary work.

12 to 1:30 p. m., Delegates luncheon and business meeting.

2 p. m. Roundtable discussions continued.

6:30 p. m. Annual banquet at Restaurant del Paseo, mineral auction, dancing.

Sunday a. m. Inspection of exhibits.

Noon, directors' luncheon and business meeting.

Misnamed Minerals

CHRYSOBERYL

Chrysoberyl! To those persons familiar with this entrancing gem, the name itself is almost magical, and bold attempts to substitute other lesser stones for it arouse disgust. Chrysoberyl stands alone and majestic in its class. Its hardness of 8.5 is entirely distinctive. No other stone has this hardness.

Chrysoberyl appears in three types only, Cymophane, "Oriental" Catseye, and Alexandrite. Cymophane, commonly called "Chrysoberyl," is brilliantly green, hardness 8.5; Catseye is golden brown with the beautiful chatoyancy of the eye of a cat, hardness 8.5; Alexandrite is brilliantly green by sunlight, but turns raspberry red by artificial light.

The substitutes are easily detected: Chrysolite, yellow green, hardness 6.5 to 7; Quartz Catseye, yellow brown, hardness 7; Synthetic Alexandrite, greenish red, hardness 9.

DESERT CALCITE

Calcite, a carbonate of lime, occurs in many parts of the Colorado desert. It is found in many forms: as veins with other minerals; as rhombs in quartz geodes; as replacements in both igneous and sedimentary rocks; and as masses of irregular size on the surface of the ground. These masses are very interesting. A hammer breaks them easily into regular rhombohedrons of many sizes. Some are perfectly transparent, while others are milky. Many milky rhombs fluoresce salmon pink, while the clear ones fluoresce scarlet and phosphoresce clear white.

BUDDING ROCKHOUND

The following letter was received by the California Division of Mines in Sacramento:

"In geography, I am studying minerals. I thought it would be interesting to have a few minerals to look at. I read in geography that California has some gold and silver. Will you please send me some samples of these minerals? If necessary, I will be willing to send some money for postage. I am sending my thanks in advance."

BIRTHSTONES

April—Diamond

Diamond is the crystalline form of carbon. It is the hardest of all known stones, and by the Greeks was called "Adamas," meaning unconquerable. The first diamonds were discovered in India and Borneo, in conglomerates and river gravel. Later, about 1670, they were identified in Brazil. But 90 percent of the world's supply comes from the Kimberley mines in South Africa, where they occur in "blueground" or Kimberlite. Only about 1 1/2% of the yield are fine white stones, worth uncut about \$70,000,000.

On account of the high cost of the diamond, white Sapphire, a truly beautiful stone, is also recognized as the April birthstone.

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"ROCKHOGS"

Rockhogs is not thorbred Rockhouns—in fac they is a mongerel kind of an animal that ain't related to reel Rockhouns at all.

When a Rockhog heres about a big new gem find he rushes hedfurst to git there ahead of everybody else—and git all the rocks before the Rockhouns cum. Generally haf the specimens he packs home are no good and they jus sit around in the way til his wife gits mad and throws them in the chicken pen.

Last year a Rockhog herd about a big field of gem stones. When he got there it wuz so big he could only hawl jest a little bit of it away. Right then and ther he died of Rockoplexy.

A reel Rockhog is always either fat like a hog, er else very thin? Sometimes he is jest meedium fat, but he always acts the same. He bostes that he got it awl. He is a mighty good frien of his-self.

Rockhouns aint got no use for Rockhogs.

Lapidary Society Organized

Los Angeles Lapidary Association organized February 15, with 42 charter members, is the first of its kind in the United States. Membership will be limited to 100. Officers are Leland Quick, president; Tell Tuffli, first vice president; Raymond Yale, second vice president; Clarence Puddy, secretary; Ernest Snowberger, treasurer.

• • •

Unusual Deposit Found

Mrs. Anita Scott reports from Boulder City, Nevada, that on a recent field trip, the Prospector's Club discovered a flow of Latite, a pinkish-lavender breccia in pin stripes. At the base of the same cliff was an outcropping containing obsidian nodules known as Spherulites.

• • •

DO YOU KNOW THAT GARNETS—

- Occur in 6, 12, 24, and 36 sided crystals?
- Vary widely in chemical formula?
- Appear in 10 or 12 shades of red, brown, yellow, violet and green?
- Are often sold as rubies?
- In ancient times were very expensive?
- Are found in mica schist, hornblende schist, granite, feldspar, and many other substances?
- Vary from translucent to opaque?
- Are sometimes microscopic in size?
- Can be sifted from the gravel around ant-hills in several southwestern states?
- Are often hard to distinguish from limonite pseudomorphs after pyrite?
- Are found in almost all parts of the world?
- Are sometimes confused with hyacinths, rubies, emeralds, spinels?
- Are used in a powdered form, to make a species of sandpaper called "garnet paper"?
- Are hard enough to scratch steel?
- Often crumble to powder when heated too much?
- Have a glassy or vitreous luster?
- Have been found up to four inches in diameter?
- Have no natural cleavage?
- Were formed only at high temperatures?
- When cut cabochon, are called carbuncles?

GEMS MAY BE FOUND WITH A GOLD PAN

Many mineral collectors are not aware that small gems often may be found by panning sand and gravel in the same way that prospectors pan for gold.

When a regular gold pan is not available an old cooking skillet may be used, if trouble is taken to remove all grease which has accumulated inside the utensil. This may be done by applying intense heat. The skillet will serve the purpose better if it has sloping edges.

The vessel may be filled from a third to two-thirds with the sand or gravel to be tested, and water added to completely fill the pan. The gravel should be well mixed with the water, preferably with your hands.

Then tip the pan slightly so that the water begins to run off, and at the same time turn it with a circular motion, giving it a sharp twist at each turn. As this motion continues the lighter gravels on the surface are gradually washed out and the heavier materials tend to concentrate in the bottom. Do not hurry. Give the minerals of high specific gravity plenty of time to work down through to the bottom.

Eventually there will be only a small tablespoon of material left with a few drops of water. With a final turn of the pan, spread this material along the bottom inside rim and with the same motion carefully drain the remaining water off.

It is then time to examine your residue for small flakes of gold or minerals which may be red garnets or other colorful stones. Use a magnifying glass if you wish to give it a thorough examination.

Stones panned in this way are too small for mounting, but may be preserved in a small glass tube or bottle.

Why We Wear Earrings

Ears are indiscreet members of the human organism. They sometimes listen to secrets not intended to be heard. So, in ancient times, ears were pierced in punishment. But ancient man, feeling sorry for his poor chastised ears, consoled the suffering members by putting ornamental rings and beautiful stones in the holes.

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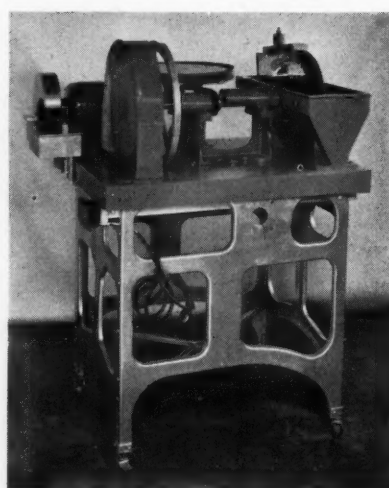
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AMONG THE ROCK HUNTERS

Frank Livesley and A. C. Langan, discoverers of a turquoise deposit on Lone mountain, Nevada, plan to polish and sell the semi-precious material in their shop in Tonopah.

Devore Helfrich, 327 East Main St., Klamath Falls, Oregon is interested in building up a thunder egg collection by means of trading.

Dale Lambert, secretary of Columbian Geological societies, writes that fifty different petrified woods have been identified in the Vantage ferry area of central Washington.

Stockton Gem and Mineral club sponsored an exhibition of minerals and polished stones. The exhibit was viewed by more than 5000 visitors in the first two weeks.

Imperial Valley Gem and Mineral society entered a display in the Imperial County mid-winter fair that caused much favorable comment. It amazed the uninitiated to discover what a variety of gems and minerals was to be found in Imperial county.

Long Beach Mineral society made a field trip to the Twentynine Palms area, February 24-25. At the March meeting members enjoyed a talking picture and a grabbag, specimens furnished by members. Wendell Stewart presented his Mexican program at the April meeting.

Montana Society of Natural and Earth Sciences, recently organized, reports a 600 per cent membership increase without solicitation or open public meetings. Jesse Green, president; George W. Shaw, vice president; and H. E. Murdock, secretary and founder.

U. C. L. A. extension division began a course "Trips Afield" for mineral collectors in March. Room 812, Hillstreet building. Instructor is Dr. Robert Webb of the university faculty, and a member of Los Angeles Mineralogical society and Mineral Society of Southern California.

Sixteen members of the Imperial Valley Gem and Mineral society spent the last weekend in February exploring the Turtle mountain area on the southern edge of the Mojave desert. They found chalcedony roses scattered over a wide area, some of them with amethystine tinting and others with red bands. Nice specimens of jasper also were brought home.

Mojave Desert Mineral and Gem society has elected the following officers: Walter Lauterbach president, R. H. Green first vice president, Ferd Meyer second vice president, Tom Wilson secretary-treasurer. The society has affiliated with the state federation. Barstow has a wonderful gem and mineral field within easy access—Mojave desert.

Ontario, Oregon Mineral club plans to change its name in the near future to include more territory, as its membership includes collectors from Payette, Idaho. At its first annual banquet, the special guests were the Idaho Gem club of Boise, and the Owyhee Mineral society of Caldwell, Idaho. Morrisonite, an oddly marked and highly colored jasper, is found in that vicinity.

Field Trips for Gem Collectors!

Collectors in the Southwest are finding enjoyment and adding many new specimens to their displays by following the field trips logged in the Desert Magazine. During the past two years 16 of these trips have been published with maps showing exact directions for reaching the gem areas.

You may obtain these back copies by writing to the Desert Magazine office. Here are a list of gem trips, with the month in which the map and log appeared in the magazine:

Mar. '38—Bloodstone in the Orocopia Mountains.

Apr. '38—Dumortierite along the Colorado river.

Sept. '38—Turquoise on the Mojave desert.

Nov. '38—Jasper and agate on a prehistoric beach line near Blythe.

Dec. '38—Calcite and geodes in Twentynine Palms area.

Feb. '39—Opals at Zabriskie.

Apr. '39—Geodes in the Chuckawalla Mountains.

May '39—Maricopa agate in Arizona.

June '39—Rainbow rock in the Santa Rosa Mountains.

Oct. '39—Carnelian in Saddle Mountains.

Nov. '39—Tourmaline mine in San Diego county.

Dec. '39—Gem stones in Menagerie canyon.

Jan. '40—Carnelian in the Bullion Mountains.

Feb. '40—Gypsum crystals near Boulder City.

Mar. '40—Alabaster near Salton sea.

Apr. '40—Agate and Jasper near Cave springs.

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12 copies with 2-yr. subs. \$5.00

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Desert Place Names

Magazine is indebted to the research work done by the late Will C. Barnes, author of "Arizona Place Names;" to Betty Toulouse of New Mexico, to Margaret Hussmann of Nevada and Hugh F. O'Neil of Utah.

ARIZONA

PHOENIX

Maricopa county

Ele. 1080 ft. On north bank of Salt river. Elliott's history of Arizona says, "A mass meeting of citizens of Salt river valley was held on October 20, 1870, for purpose of selecting a suitable piece of unimproved public land for a townsite. Darrell Duppa, John Moore, and Martin P. Griffin were appointed a committee to make the selection. They recommended the north ½ of sec. 8, T. 1 N., R. 3 E., and that the town be called Phoenix." McClintock writes: "The earliest settlement was probably early in 1869 about four miles east of the present town where the flour mill was later erected. First called Swillings, then Helling mill, after the mill owner, then called East Phoenix. When the question of a name came up, Jack Swilling wanted to call it Stonewall, after Stonewall Jackson, because he had been a Confederate soldier. Salina was also suggested. These were turned down. Then Duppa, pointing to the evidence of a former civilization and occupation suggested Phoenix. He declared a new city would spring up Phoenix-like, upon the ruins of a former civilization. The name was accepted." On some early military maps the name was spelled Phenix. Many army officers and others believed it was named after the noted army officer and writer, John Derby, who wrote under the pen name Phoenix. Derby was for some time commanding officer at Fort Yuma. Theodore Roosevelt once told Colonel McClintock that he, Roosevelt, had always supposed the city was named after Derby. According to Farish, "The name Phoenix was first used officially when the board of supervisors of Yavapai county formed an election precinct by the name, May 4, 1868." P. O. established June 15, 1869, Jack Swilling, P. M. Prescott Miner of December 7, 1870, carried an advertisement reading, "Great Sale of Lots at Phoenix, Arizona, on the 23rd and 24th of December." First lot was sold on corner of Washington and Montezuma streets, to Judge Berry of Prescott for \$104. City was incorporated by the legislature, 1880. Vanished Arizona says, "December 1878 we took supper in Phoenix at a place known as Devine's. Even then its gardens, orchards and climate were becoming famous."

CALIFORNIA

SUPERSTITION MOUNTAIN

Imperial county

About 15 miles west of the town of Imperial, a low, lone mountain, "rising," says a geological survey report, "like a cloud of smoke from the desert plain. This is Superstition mountain, a ridge of granite about 750 feet high. It is supposed by many to be an old volcano and at times is said to give off fumes, noises and mysterious signs. The writer has walked its crest for several miles and found it to be composed entirely of a uniform grey biotite granite. Some curious sand dunes have accumulated on its crest. The only evidence of anything volcanic consists of a bed of vesicular basalt and a bed of tuff, each about 200 feet thick, interbedded with Tertiary sandstone that flanks the mountain on its north side and is reported to occur at other places." Near the base of a cliff at the southeastern end of the mountain, a prospector, Frank Graham, has built a one-room cabin which com-

For the historical data contained in this department the Desert

mands a magnificent view of the cultivated area of Imperial valley, the green fields terminating abruptly at the desert's edge a few miles from his front door. There is a good story in the reason for Frank's selection of the spot for his home. Once, on a prospecting trip, his car got stuck in the sand at this location. In shoveling his way out of the soft place, Frank uncovered a bed of superior quality, water-washed gravel. Now he operates a gravel pit, thus finances his prospecting trips. He believes a prehistoric river once flowed around the mountain here, and that the waters of this stream washed clean the gravel modern builders buy from him.

NEVADA

GOLD HILL

Storey county

Said to have been discovered by James Fenimore ("Old Virginia"), Henry Comstock and a few other miners, who struck surface diggings on a little knoll at the north end of the present town of Gold Hill. The discovery was made at head of Gold canyon in 1859, ground was measured off and shared among the discoverers. It was decided to call it Gold Hill because it seemed to be a little hill of gold. As they dug deeper prospects grew richer. Soon most of the Johnstown people moved to Gold Hill. At first they camped under trees, then erected temporary huts and log houses. The place flourished, was incorporated as a town February 20, 1864. When the Virginia and Truckee railroad reached the town, it provided connection with Virginia City, two miles away.

NEW MEXICO

PINOS ALTOS (peenyos ahlto)

Grant county

Sp. "tall pines." In 1867, the town of Pinos Altos was laid out and plotted by the Pinos Altos town company of which Samuel J. Jones was the leader. Pinos Altos was an early mining center and reached its flood-tide of activity in the 1860s. It was the county seat until 1874 when Silver City overshadowed it and was made county seat. In the late 1860s it was not safe for anyone to venture away from the settlement alone because of the Apaches. Finally the settlers entered into a compact with the Indians and it was agreed that a large cross should be placed on the summit of a hill just north of the town and as long as the cross remained in place no killing was to be done by either white or Indian. The Apaches kept this agreement for nearly 20 years.

UTAH

CEDAR CITY

Iron county

Ele. 5,805; pop. 3,615; settled 1851. So named because of the abundance of cedar (juniper) trees in the vicinity. First called Coal Creek, taking the name of the stream on which the first settlement was made. The creek derived its name from nearby deposits of a low grade of coal.

LOA

Wayne county

County seat. Ele. 7,000 ft., pop. 343. So named because of the volcano-like appearance of Mt. Pooneke, near the settlement. Franklin B. Young who had served as a Mormon missionary in the Hawaiian islands, suggested that the town be named for the volcano Mauna Loa.

Sez Hard Rock Shorty of ... Death Valley

By LON GARRISON



"Big words? Sure I unnerstands 'em. Irregardless o' length I can untwist 'em right along with this guy that wrote the book about it. But since I lived around Windy Webster for a couple o' years I sort o' got out o' the habit."

Hard Rock Shorty tipped his chair back against the wall of the store porch and relaxed on the back of his neck.

"This here Windy claimed to be a first cousin o' the guy that wrote the dictionary an' he could o' been—he knowed all the big words there was in it an' some o' the little ones to boot. He couldn't carry on a one sentence conversation without throwin' in a few jaw busters.

"When he met somebody instead o' just sayin' 'Pleased to meetcha' like civilized folks, he'd bust out—'The platitudes has no parable conveyin' the magnitude o' the exhilaration it induces to be thus honored.' Always doin' it. Sounded like a preacher with a balky mule or a single jack. But that was afore he went out with me an' Gene Banks oncet to look at a little prospect Gene had up Fried Egg canyon. Windy was a newcomer, but a great big guy, full o' zip, an' he got way ahead o' us two. When we first caught up with 'im he was settin' there by this little alum water spring Gene had up there, an' he was just puttin' down a tin cup. The durn fool'd took a drink of it! Kind o' gagged 'im a bit an' then he looked at us, opened his mouth, an' kept it open for about five minutes, an' then all he can do is kind o' grunt, 'Hi.'

"Yes sir—that cured 'im o' them big words. The alum water puckered up his talkin' machinery 'til all he c'd handle was words o' one syllable—or less."

MUMMIFIED BODY OF INDIAN OUTLAW IS DISCOVERED

In a cave 30 miles from Boulder dam on a cliff high above the Colorado river, prospectors late in February found the mummified body of Quejo, Indian renegade charged with killing 23 whites and Indians. This fugitive eluded posses of white men and Indian trackers, was last reported in 1919 when he fled into the desert ahead of pursuing officers. The body, excellently preserved, was dressed in clothes Quejo wore when he dropped out of sight 21 years ago, according to a member of the posse which chased him then.

HUGE NEW MEXICO RANCH BOUGHT BY COPPINGER

Reid Coppinger of Farmington, New Mexico, has bought the 15,000-acre ranch of the late Sam Lybrook. The transfer involves one of the largest ranches in north-western New Mexico, the land located between the W. A. Lybrook estate holdings and the Jicarilla Apache Indian reservation in Rio Arriba and Sandoval counties. Coppinger is a stockman. Seven sections of the W. A. Lybrook estate holdings, including a residence said to have cost \$70,000, are under option to the Indian service, which plans to use the building for an Indian hospital.

The Desert Trading Post

Classified advertising in this section costs five cents a word, \$1.00 minimum per issue—actually about 2½ cents per thousand readers.

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BOULDER DAM engraved plates \$1.50 each, imported from England. Colors: Wakefield pink, light or Staffordshire blue; also six inch teapot tiles same design and colors \$1.50 each. Mailing charges collect. UL-LOM'S DESERT STUDIO, Box 925, Las Vegas, Nevada.

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By RANDALL HENDERSON

*N*O doubt you recognized the scaly monster on the cover of this month's magazine as our modest little desert friend the horned toad. Those vicious looking horns are just a bluff. He's really quite harmless—and as he neither bites nor stings, this picture probably was snapped as he opened his mouth to catch a passing fly.

* * *

In his provocative book "Twilight of Man," Dr. Earnest A. Hooton of Harvard university discusses "the incessant conflict between two social and individual attitudes which, for want of better terms, I call predacity and humanitarianism."

None of us are entirely predacious in our social attitude, nor are any of us always humanitarian—but generally speaking, the members of the human race are predominantly one type or the other.

What brings this quotation to my mind just now is a letter received from Florence E. Schisler of Indio, California, in which she tells of the destruction of thousands of acres of wildflowers in the Coachella valley this year by great flocks of sheep brought in from distant points. She writes:

"There are probably 40,000 head of sheep here now. The frontage along U. S. Highway 99 for several miles west of Indio has been stripped of foliage and tramped to a sandy waste. We not only have lost our wildflowers, but the land is laid bare for destruction by winds and cloudbursts. When I protested to one of them he exclaimed, 'Flowers are no good to anyone except a bunch of damned women.'"

California has a law which was intended to protect the desert landscape against this kind of spoilage—but the actual enforcement of the law is in the hands of county supervisors. In Riverside county where the supervisors are notoriously indifferent in matters concerning the welfare of their desert constituency, the law virtually is a dead letter.

In the conflict that is going on in Coachella valley between residents and invading sheep men, there is a rather striking application of what Dr. Hooton had in mind when he classified human beings as either predatory or humanitarian.

It is the old, old conflict between the dollar-grabbers and that minority element which would like to create a better world in which to live. To a certain type of human being, desert flowers merely are something to be turned into mutton with which to amass more money. Fortunately, there are people to whom the beauty of a flower bedecked landscape is more important than the gold that mutton will buy—otherwise this world would be a very drab place indeed.

* * *

The Desert Magazine's rock garden is growing. That idea of a "rock shower" which I suggested last month brought surprising results. Some of the specimens my friends lugged in were so pretty I put them in the display case in the front office.

If the rocks keep on coming I'm going to start one of those "trail shrines" such as were built by the prehistoric tribesmen along their footpaths. According to archaeologists each Indian paused as he passed that way to deposit a pebble or small boulder on the pile—thus inviting the protection of the gods for a safe journey.

Many of these ancient shrines are still to be seen along the old Indian trails which cross the desert. I have asked Arthur Woodward to dig up all the available information regarding these old shrines so the Desert Magazine can tell the story to its readers.

* * *

Many poems come in the mail. Some of them I like, and others I cannot even understand. Which does not necessarily mean there is anything wrong with the poetry. I really don't mind receiving badly-written poems—as long as they are accompanied by a note indicating the writer has sense of humor enough to grin when I send 'em back.

* * *

I camped one weekend late in February with the members of the Imperial Valley Mineralogical society on the desert at the eastern base of the Turtle mountains not far from Parker dam.

Where we spread our sleeping bags that night the floor of the desert was thickly strewn with chalcedony roses—those waxy white "flowers" of the quartz family which are found in many places in the Southwest. From a gem dealer's standpoint they have little value—but they make pretty specimens for the collector.

Rock collecting is a fascinating hobby—but its greatest value is not in the specimens that are brought home, but in healthy exercise of tramping the desert in pure air and health-giving sunshine.

The collectors who get most from their field trips are those who are interested also in the flowers and animals of the desert, and in the relics of prehistoric Indian life, which are to be found everywhere in the Southwest. A person with a one-track mind misses half the fun of exploring the desert country.

DISCOVER NEW WORLDS

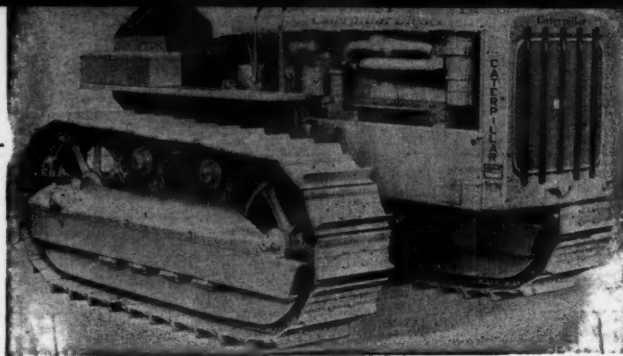
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Seventeen Palms

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